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## Reconsidering the Effect of Informal Labeling on Adolescent Delinquency: Within-Individual Analyses with Mediating and Moderating Processes

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RECONSIDERING THE EFFECT OF INFORMAL LABELING ON ADOLESCENT  
DELINQUENCY: WITHIN-INDIVIDUAL ANALYSES WITH  
MEDIATING AND MODERATING PROCESSES

By

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A Dissertation submitted to the  
College of Criminology and Criminal Justice  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

2018

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*This dissertation is dedicated to my beloved wife, Eun Mi Bae, who has shared all the sweets and  
bitters of life with me.*

## ACKNOWLEDGMENTS

The completion of this dissertation would not have been possible without the support of many people. Most of all, I would like to express my sincere appreciation to my major professor, Dr. Carter Hay. With incredible fairness and warmth, Dr. Hay has supported me through all the hardships that I have met during my journey. In addition, I learned invaluable lessons from him including academic skills, rigorousness as a scholar, and attitudes as a teacher. The time that I have spent with him was one of the most fruitful times in my life and I will never forget what he has shown to me.

I would also like to thank other dissertation committee members, Dr. Sonja Siennick, Dr. William Bales, and Dr. Ming Cui. Dr. Siennick has contributed to not only this dissertation but also my other research projects. I sincerely appreciate her efforts in helping me achieve this accomplishment. I also want to express my gratitude to Dr. Bales, who has always encouraged me with insightful advice. I was inspired by his passion and commitment as a scholar during the time that I have worked with him as a research assistant. Also, I would appreciate the contribution of Dr. Cui to this dissertation. It is evident that I could not have finished this dissertation without her advice on both theory and methods. It was an honor to have them as my dissertation committee members.

Special thanks go to Dr. Brendan Lantz, who has supported me as my academic advisor during the past one year. Working with him as a graduate assistant was a truly wonderful time. I also want to express my sincere appreciation to Dr. Thomas Blomberg, the dean of the College of Criminology and Criminal Justice, all the other faculty members, staff, and friends in the program who have supported me during my time at Florida State University.

It is a pleasure to thank my family members. My wife, Eun Mi Bae, my daughter, Nayun Kim, and my son, Dongha Kim, have always been constant sources of support and encouragement. I also thank my father, Ki-Sub Kim, who was always praying for me, Hye-Young Kim, my beloved sister, and Pil-Sun Kim, my mother, who is always on my mind. Finally, I would like to thank my father in law, Sang-Jung Bae, my mother in law, Ho-Yeon Kim, and my brother in law, Soo-Young Bae, who have also supported me with love and affection.

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## ABSTRACT

Despite recent development in labeling theory, some voids in research still exist. First, labeling theory has overly emphasized formal labeling and relatively neglected the importance of informal labeling. Second, most research has centered on examining between-individual effects of labeling rather than within-individual effects from time to time in spite of a developmental nature of the theory. Third, prior research on informal labeling has not paid enough attention to a variety of mediating and moderating processes involved in the relationship between informal labeling and delinquency.

This study addressed these voids by examining the within-individual effect of perceived informal labeling on adolescent delinquency with mediating and moderating processes involved in this effect. As mediating and moderating variables, deviant self-concept, attachment to parents, attachment to teachers, attachment to very close friends, and delinquent peer association were tested. Also, sex and prior delinquency were tested as moderating variables. The data came from Korea Youth Panel Study (KYPS), which consisted of 6 waves of panel data collected from 2003 to 2008. For the analysis, three-level random effect negative binomial models were estimated. The final sample size was 14,491 observations on 2,646 respondents in 100 cities.

The result showed that perceived informal labeling had a significant and positive within-individual effect on later delinquency. When it comes to the mediating processes, deviant self-concept did not significantly explain the within-individual effect of perceived informal labeling on delinquency, while between-individual effect of deviant self-concept on delinquency was significantly reduced when deviant self-concept was included in the model. Rather, perceived informal labeling significantly reduced deviant self-concept after one year. This result implies that adolescents may deny or reject the labeling imposed by others. Also, attachment to others did not significantly account for the within-individual effect of perceived informal labeling on delinquency. This shows that attachment to others is not a consequential factor that explains the effect of labeling on delinquency. Meanwhile, delinquent peer association significantly accounted for the within-individual- and the between-individual effect of perceived informal labeling on delinquency as expected.

In terms of the moderation analysis, the within-individual effect of perceived informal labeling on delinquency was more consequential for females than males, but prior delinquency

did not significantly moderate the within-individual effect of perceived informal labeling on delinquency. Attachment to teachers reduced the positive within-individual effect of perceived informal labeling on delinquency as expected. Also, attachment to very close friends and delinquent peer association amplified the within-individual effect of perceived informal labeling on delinquency as expected. Unexpectedly, attachment to parents also turned out to increase the positive within-individual effect of perceived informal labeling on delinquency. This result shows that parental attachment itself may not be a protective factor that reduces the harmful effect of informal labeling if the parental attachment does not involve any proper control over the adolescents.

In sum, although this study showed a significant effect of perceived informal labeling on delinquency at the within-individual level, mediating and moderating processes involved in this association were somewhat different from prior studies that were based on the effect of formal labeling or between-individual dynamics. More research is needed with a variety of mediating processes, time spans, and samples to fully understand the within-individual dynamics involved in the association between main constructs of labeling theory given that the original theoretical framework of labeling theory proposes within-individual changes of individual behaviors over time.

# CHAPTER 1

## INTRODUCTION

### 1.1 The Evolution of Labeling Theory

Labeling theory is unique in two ways compared to other dominant criminological theories. In explaining crime, labeling theory mainly concentrates on the influence of formal punishment by the criminal justice system, while theories from the positivist school of criminology focus on the characteristics of criminal offenders and their social surroundings. Also, although both labeling theory and deterrence theory share their interests in the role of the criminal justice system to explain crime, labeling theorists have a totally opposite perspective of deterrence theory. That is, labeling theory views formal punishment as a cause of further criminal behaviors, while deterrence theory views formal punishment as a deterrent to further crime. These unique features of labeling perspective have drawn significant empirical attention from researchers since 1960s.

Several criticisms of labeling theory, however, have arisen. Specifically, many scholars (Bernburg & Krohn, 2003; Gibbs, 1966, 1972; Paternoster & Iovanni, 1989; Wellford, 1975) had pointed out the theory's vague conceptualization of major concepts, a failure of specifying empirically testable propositions, unclear mediating and moderating mechanisms, and weak empirical support. Also, whether labeling is a dependent variable or an independent variable was unclear in early forms of labeling theory (Kubrin, Stucky, & Krohn, 2009, p. 209). In addition, early empirical studies of labeling theory tested too simple hypotheses that did not include mediating and moderating processes (Paternoster & Iovanni, 1989, p. 360). With these criticisms, labeling theory had lost favor during past decades.

Labeling theory, however, has been revived by recent efforts (Bernburg & Krohn, 2003; Bernburg, Krohn, & Rivera, 2006; Chiricos, Barrick, Bales, & Bontrager, 2007; Matsueda, 1992; Paternoster & Iovanni, 1989; Sampson & Laub, 1997) to overcome the limitations in early research. First of all, these labeling researchers illuminated mediating processes through deviant self-concept (Matsueda, 1992), limited conventional opportunities (Bernburg & Krohn, 2003; Sampson & Laub, 1997), embeddedness in the deviant subculture (Bernburg et al., 2006), estrangement from prosocial relationships (Zhang & Messner, 1994), and interruption in the

parent-child social bond (Stewart, Simons, Conger, & Scaramella, 2002). Furthermore, Braithwaite (1989) proposed reintegrative shaming theory that specified conditions under which formal punishment is more likely to deter or to facilitate criminal acts. All these efforts contributed to establishing labeling theory as a sustainable explanation of crime and delinquency.

## 1.2 Voids in Prior Research

Nevertheless, there still remain unresolved issues that need empirical attention. First, labeling theory overly emphasizes the effect of formal labeling, thus, neglecting other social explanations of crime. For example, Lemert (1951) regarded primary deviance that occurs before labeling by a variety of social factors as being unorganized, inconsistent, and infrequent, while secondary deviance is caused by formal labeling through altered self-concept (Kubrin et al., 2009, p. 202). Although recent studies started to pay attention to some social variables such as delinquent peer association (Bernburg et al., 2006) or social bond (Stewart et al., 2002) as mediating variables in the relationship between formal labeling and secondary deviance, these variables have been regarded as outcomes of formal labeling instead of independent factors from formal labeling. This narrow focus on formal labeling might lead to weak empirical support of the theory. Akers and Sellers (2012, p. 157) pointed out that

*Revisions and modifications that focus more on informal labeling by parents, peers, teachers, and others in the process of symbolic interaction, rather than the power-related formal labels of the criminal justice system, are more likely to receive empirical support.*

Thus, some researchers have turned their attention to the effect of informal labeling. Paternoster and Triplett (1989, p. 6) defined informal labeling as “an attempt to characterize a person as a given ‘type’... by persons who are not acting as official social control agents, and in social situations that are not formal social control ‘ceremonies’ ”. That is, informal labeling refers to a type of labeling by surrounding people such as family members, friends, and teachers (Adams, Johnson, & Evans, 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Ray & Downs, 1986; Triplett & Jarjoura, 1994). The number of empirical studies, however, is still small to generalize the result. Moreover, even these studies just incorporated informal labeling as an independent variable in their empirical tests without enough

explanation of the distinctive implication of the effect of informal labeling in explaining crime or do not fully examined the mediating and moderating processes.

When comparing with formal labeling, informal labeling has distinctive theoretical implications largely in three ways. First, exposure to informal labeling is more frequent than formal labeling because the source of informal labeling such as family, friends, and teachers is the ones who always interact with an adolescent. Unlike relatively limited number of exposure to formal labeling, this nature of informal labeling provides a unique opportunity to observe how within-individual change in informal labeling influences the criminality of adolescents. In other words, the continuous interaction with surrounding people makes it possible to observe how change in the level of informal labeling that occurs in continuous social relationships affects the level of adolescent delinquency from time to time.

Second, informal labeling might have a more direct effect on one's self-identity or later delinquency than formal labeling because the concept, informal labeling itself involves publicity. That said, unlike formal labeling that may or may not be acknowledged by surrounding people, informal labeling itself involves people's recognition of an adolescent as a delinquent. Given the symbolic interactionism perspective that one's self-identity is formed through interaction with others, publicity of labeling is an important factor that leads to deviant self-concept. That is, symbolic interactionism assumes that if formal labeling by the criminal justice system is not recognized by others, the change in self-concept would be less likely (Paternoster & Iovanni, 1989). Informal labeling, however, in itself, implies the fact that delinquency of an adolescent is known to surrounding people.

Third, parents, family, friends, and teachers are "significant others" that may influence more on adolescent self-concept than the criminal justice system. In other words, adolescents may be more likely to care significant others' appraisals than the labeling of the formal criminal justice system (Adams et al., 1998; Crocker & Major, 1989). On the other hand, some of these people such as parents, family, and very close friends are those with whom an adolescent continues to socialize in everyday life. This fact raises a possibility that adolescents may not care much about these people's appraisals. This perspective is consistent with early labeling theorists (Lemert, 1951; Tannenbaum, 1938) who insisted that informal penalties and rejections before formal labeling are not enough to change the adolescent self-concept. In sum, there are two

opposing perspectives in terms of the strength of the impact of informal labeling compared to formal labeling.

The second void in prior research is a lack of attention to the within-individual effect of labeling on delinquency. Although researchers recognized that the original proposition of labeling theory made by early theorists (Becker, 1963; Lemert, 1951; Tannenbaum, 1938) focused on within-individual changes in an individual's criminality over time, nearly all of the empirical studies have examined how labeling explains between-individual differences in deviance. For example, Sampson and Laub (1997, p. 138) pointed out that labeling theory is "truly developmental in nature, because of its explicit emphasis on processes over time". In particular, the symbolic interactionist perspective sees that an individual's self-identity, which is a key mediating variable in the relationship between perceived informal labeling and delinquency, is not a fixed entity but something that changes according to continuous interactions with surrounding people. In addition, life-course research spanning several decades has shown that one's criminality or crime level changes according to the influence of a variety of factors (Giordano, Cernkovich, & Rudolph, 2002; Laub & Sampson, 2003; Paternoster & Bushway, 2009; Sampson & Laub, 1993). All these theoretical perspectives regarding the nature of the informal labeling, self-identity, and delinquency imply the necessity of empirical tests on within-individual dynamics among these constructs. Nevertheless, most prior researchers, even those who adopted longitudinal designs, have only examined the effect of labeling on between-individual differences (Bernburg & Krohn, 2003; Bernburg et al., 2006; Matsueda, 1992; Restivo & Lanier, 2015).

Third, prior research does not consider the role of human agency that may interact with labeling to predict deviance. Human agency generally refers to "the capacity of human beings to control their actions and to produce meaningful action with a purpose (Paternoster, Bachman, Bushway, Kerrison, & O'Connell, 2015, p.217)." although the definition is not clear-cut. That is, the term, human agency, is often used as the antithesis of outside forces or environmental factors that determine human behavior. In labeling theory, an individual is described as an overly passive being that seldom influences their own behavior. Scholars (Akers & Sellers, 2012; Gibbs, 1966; Kubrin et al., 2009; Paternoster & Iovanni, 1989; Rogers & Buffalo, 1974), however, point out that individuals have their own identity that may lead them to reject or deny the label.

This possible conditioning effects of human agency or self-identity of the actor, however, have not been properly tested in prior research on labeling theory. One of the reasons for this relatively weak attention to the moderating role of human agency might derive from the conceptual vagueness surrounding concepts like human agency. One possible concept that can be considered as human agency is self-identity that influences the decision-making process independent of environmental factors and provides a degree of consistency in their behaviors (Paternoster & Iovanni, 1989). Although self-identity is also an abstract concept, recent research on identity theories of crime desistance (Giordano et al., 2002; Paternoster & Bushway, 2009) sheds some light on this issue by suggesting that self-identity can change by internal motive and interact with social environmental factors (e.g. social control factors) to predict delinquency. That is, this literature suggests the possibility that self-concept can operate not only as a mediating variable that explains the link between labeling and delinquency but as a moderating variable that conditions the effect of labeling on delinquency.

Lastly, there has not been enough research on how labeling interacts with other social environmental factors to predict future deviance. Most studies (Ageton & Elliott, 1974; Barrick, 2014; Bernburg & Krohn, 2003; Chiricos et al., 2007; Harris, 1975; Jensen, 1972; M. W. Klein, 1986; Morris & Piquero, 2013; Ray & Downs, 1986; Sweeten, 2006) that tested the moderating mechanism have focused on how the effect of labeling varied according to demographic factors. On the other hand, only a few studies have examined the moderating effect of social environmental factors such as peer delinquency (Liu, 2000) or family attachment (Jackson & Hay, 2013). Although these studies provide some insight into how the effect of labeling can vary according to subgroups exposed to different social environmental factors, there still remain various social factors that need to be explored.

### **1.3 The Current Study**

To overcome these limitations in prior research, the current study addresses the following issues using four waves of Korean Youth Panel Survey data. First, the current study builds on prior literature (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Ray & Downs, 1986; Triplett & Jarjoura, 1994) that examined the effects of informal labeling on delinquency. Specifically, the current study examines the effect of perceived deviant informal labeling on adolescent delinquency. Perceived deviant informal



labeling has been termed in a variety of ways in prior research. For example, Matsueda and colleagues (Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992) defined it as “reflected appraisals as a rule violator”, while Triplett and Jarjoura (1994) named it “subjective deviant informal labeling” that is distinctive from actual or objective labeling. The choice of the perceived informal labeling as a main independent variable can be defended by the following logic. First, prior research points out that perceived deviant informal labeling by adolescents (i.e. reflected appraisals as a rule violator or subjective deviant informal labeling) has a more direct, significant effect on delinquency than objective labeling (Matsueda, 1992; Triplett & Jarjoura, 1994). In addition, given the symbolic interactionism tradition of labeling theory that emphasizes the change in perception on one’s self-identity, using a perceptual measure of informal labeling rather than an objective measure of informal labeling is more suited for the theoretical perspectives.

The second contribution is that unlike prior studies that examined the effect of informal labeling on between-individual differences in delinquency, this study examines how perceived informal labeling influences within-individual fluctuation in delinquency. That is, this study directly focuses on the “truly developmental” nature of labeling theory (Sampson & Laub, 1997, p. 138). For this, the current study tests whether a change in perceived informal labeling predicts the within-individual change in delinquency from time to time after controlling for any differences between individuals. By controlling for all possible individual differences and focusing solely on the within-individual changes in the level of delinquency according to the changes in the level of informal labeling, this study will provide more rigorous and theoretically precise test of labeling theory than prior studies that have just compared individuals who were labeled to those not.

Third, the current study examines mediating processes involved in the association between perceived informal labeling and delinquency. Based on prior research, three mediating factors are tested in this study: deviant self-identity (Matsueda, 1992), delinquent peer association (Adams & Evans, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Triplett & Jarjoura, 1994), and weakened attachment to significant others (Sampson & Laub, 1997; Stewart et al., 2002). Through this mediation test, the study examines whether the mediating process that has been examined based only on the between-individual differences in delinquency also operates in the within-individual effect of informal labeling and delinquency.

Fourth, the study examines the moderating role of several variables that have been relatively ignored in prior research as well as the moderating role of some demographic factors (i.e. sex and prior delinquency). First of all, the current study examines how the effect of perceived informal labeling on delinquency varies according to sex and prior delinquency. Although prior research on informal labeling (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994) generally shows that the effect of informal labeling on delinquency is stronger for those who are considered at higher risk (i.e. males, blacks, low SES, and higher level of prior delinquency), the results can be different in this study because the number of studies that examined the moderating effect of sex in the relationship between informal labeling and delinquency is small. Also, the theoretical logic why people who are considered at higher risk are more vulnerable to informal labeling is not clear (Chiricos et al., 2007). In addition, prior research that tested moderating role of sex in the relationship between formal labeling and delinquency produced mixed results. Secondly, the interaction effect of perceived informal labeling and self-identity as a human agency is examined. Although there exists a significant disagreement over the concept of self-identity (Rocque, Posick, & Paternoster, 2016, p. 55), this study operationalizes self-identity as a deviant self-concept tapping deviant nature of an individual that is assumed to be more closely associated with delinquent outcomes than other types of self-identity such as global self-esteem (Matsueda, 1992, p. 1597). This study also tests whether a key social control factor — attachment to others — moderates the effect of perceived informal labeling on delinquency. Specifically, the study examines the moderating role of attachment to parents, a teacher, and friends respectively in the relationship between perceived informal labeling and delinquency. Lastly, delinquent peer association is tested as another potential conditioning variable in the relationship between perceived informal labeling and delinquency. Delinquent peer association has been hypothesized to amplify the negative effect of informal labeling on delinquency by providing criminal opportunities and attenuating conventional social ties (Liu, 2000). All the analyses for moderating mechanisms are also conducted based on the within-individual effect of perceived informal labeling, thus, examine whether those factors moderate the effect of perceived informal labeling on the within-individual change in delinquency.

Through these analyses, this study aims to suggest some theoretical and practical implications. First, by focusing on within-individual change in delinquency according to

informal labeling, this study provides a more precise examination of original theoretical statements of labeling theory. Second, this study provides more comprehensive information on the effect of informal labeling than prior research. Because of the history of labeling theory that has developed around the role of formal social control agencies, research on informal labeling has been limited to just comparing its effect to formal labeling without in-depth consideration of its own implications. Also, many empirical studies have been limited to partial tests of the association between informal labeling and delinquency without various mediating and moderating processes. By exploring more specific theoretical implications of informal labeling and various mediating and moderating processes, the current study attempts to fill these voids in prior research.

Lastly, various moderating processes covered by the current study can provide an insight into how the harmful effect of informal labeling on adolescent behavioral problems can be mitigated. Specifically, according to the result of how moderating factors such as self-identity, attachment to significant others, and delinquent peer association operate in the relationship between informal labeling and delinquency, this study will be able to suggest some useful insights into the protective factors of informal labeling.

This dissertation is composed of six chapters including this introductory chapter. The second chapter provides an overview of labeling theory including the theory's intellectual roots, historical evolution, basic arguments and logic, recent development in theory, and limitations in prior research. Afterward, a general description of the current study and explanations of the data and methods are provided in chapter three. As empirical chapters, chapter four and chapter five address specific research questions. Chapter four focuses on the direct and indirect effect of informal labeling on adolescent delinquency. In chapter five, a variety of moderating mechanisms involved in the association between informal labeling and adolescent delinquency are explored. In chapter six, findings of the current study are summarized with the discussion on the findings and implications. This is followed by a discussion of limitations of the current study and suggestions for future research would follow.

## CHAPTER 2

### REVIEW OF LABELING THEORY AND RESEARCH

#### 2.1 Overview of Labeling Theory

Labeling theory proposes that deviant labels applied to the individual cause subsequent deviance by altering self-concept (Matsueda, 1992), decreasing conventional opportunities (Bernburg & Krohn, 2003; Sampson & Laub, 1993, 1997), and driving the individual into deviant subcultures (Bernburg et al., 2006). This logic implies the assumption that delinquency of an individual derives mainly from appraisals by others rather than inherent characteristics of an individual. In this regard, labeling theory is distinctive from many other theories that based on the positive school of criminology that consider the pathological condition of the individual or the social environment around the individual as causes of crime (Paternoster & Bachman, 2001).

Labeling theory has developed in the reflection that early positive criminology had deliberately ignored the role of the state in the creation of crime and deviance (Paternoster & Bachman, 2001). As Matza (1969) argued, the study of early positive criminologists had been limited to the characteristics of criminal offenders and their social surroundings. At the beginning of the 1960s, however, a group of scholars had begun to focus on the role of the state, which imposes sanctions on individuals (Paternoster & Bachman, 2001).

Because of this historical background, the major interest of labeling theorists has centered on the role of the state in the creation of deviant status of an individual. Based on the conflict perspective, labeling theorists view that the criminal justice system tends to impose a more severe label to those with less power in the society, including those from lower classes, racial minorities, and urban areas (Paternoster & Iovanni, 1989, p. 362). Furthermore, scholars expanded the labeling perspective by including the discussion on how politically powerful people or groups are involved in the creation of rules and laws that reflect their interests (Becker, 1963; Gusfield, 1963; Platt, 1969). Becker's (1963) discussion of the Marijuana Tax Act is an example of this perspective.

Recently, the focus of labeling theory has expanded to explore the significance of informal labeling (Adams et al., 1998; Heimer & Matsueda, 1994; Liu, 2000; Matsueda, 1992; Triplett & Jarjoura, 1994). Paternoster and Triplett (1989, p. 6) defined informal labeling as "an

attempt to characterize a person as a given 'type'... by persons who are not acting as official social control agents, and in social situations that are not formal social control 'ceremonies' ". In other words, the informal labeling refers to the appraisal of an individual as a certain type of person (i.e. delinquent) by surrounding people. Wellford (1987) emphasized the importance of informal labeling for the following reasons. First, informal labeling tends to be antecedent to formal labeling because family and school are those institutions in which an individual experiences socialization for the first time. Second, the effect of informal labeling might be more consequential than that of formal labeling given that an individual is often in closer relationship with surrounding people than the criminal justice system. Including these, informal labeling has some distinctive characteristics from formal labeling. More detailed discussion of characteristics of informal labeling will be presented in the following chapters.

## **2.2 Intellectual Roots of Labeling Theory**

### **2.2.1 Conflict Perspective**

Conflict perspective influenced labeling theory in that labeling theory views labeling as a product of the conflict between the powerful group and the less powerful group. Specifically, labeling theorists (Becker, 1963; Lofland, 1969) view that the deviant label is what members of the powerful group apply to members of the less powerful group to secure their advantageous position. Thus, labeling theory defines deviance as a consequence of the “conflict game” (Lofland, 1969, p. 14) between different groups in society. According to the labeling theory, this conflict occurs from the rule creation stage in which the powerful group prescribes acts of the less powerful group as crimes (Becker, 1963). Also, labeling theorists contend that members of the powerless group are more likely to be exposed to formal- and informal labeling than members of the middle class and the powerful group (Paternoster & Iovanni, 1989; Schur, 1971).

### **2.2.2 Symbolic Interactionism**

Labeling theory, in part, originated from symbolic interactionism theory (Paternoster & Iovanni, 1989, p. 362). Blumer (1969, p. 1) devised the term symbolic interactionism as a kind of “approach to the study of human group life and human conduct” studied by a school of scholars including George Herbert Mead, John Dewey, W.I. Thomas, and Charles Horton Cooley. Based

on the premise that everything has a meaning that does not emanate from their inherent characteristics but the social interaction between people through the language and gestures, symbolic interactionism theorists argue that an individual's identity or self-concept is also formed by interaction with others (Blumer, 1969). Cooley's (1902) term, "looking glass self" represents the idea of symbolic interactionism that our self is reflections of others' conceptions of us. Given that labeling theory focuses on a type of social interaction, "labeling" and its effect on the formation of delinquent self-identity, it is clear that interactionist principles provide the basis for labeling theory (Paternoster & Bachman, 2001, p. 224).

## **2.3 History of Labeling Theory**

### **2.3.1 Early Contributors of Labeling Theory**

Tannenbaum (1938), Lemert (1951), and Becker (1963) have often been cited as earliest scholars who paved the way for labeling theory in studying crime and delinquency. In his book, *Crime and the Community*, Frank Tannenbaum (1938) described the process of labeling by the community. According to Tannenbaum (1938, pp. 17–18), opposing views exist between some adolescents and the community in the definition of such behaviors as breaking windows, annoying people, running around porches, climbing over roofs, stealing from pushcarts, and having an unexcused absence from school. While adolescents regard these behaviors as a type of fun, play, or adventure, the community perceives the same behaviors as nuisance, evil, or delinquency that requires some form of control. Gradually, the community's perception of these acts develops into a general suspicion of those individuals who engage in these acts, and the individuals become labeled as a "bad and unredeemable human being." Finally, the labeled youth recognizes the definition imposed on him or her and undergoes a process of self-identification and integration with other delinquent youths. Tannenbaum (1938, pp. 17–18) summarizes this process in a sentence that, "the young delinquent becomes bad because he is defined as bad and because he is not believed if he is good."

Lemert (1951, 1972) made a distinction between the concept of primary deviance and secondary deviance. Primary deviance refers to the deviance that occurs prior to the labeling. Primary deviance involves unorganized, inconsistent, and infrequent minor delinquencies that arise from a variety of sources (e.g. genetic, physiological, psychological, and sociological

sources) (Kubrin et al., 2009, p. 202). Lemert (1972, p. 42) pointed out that when most individuals who committed primary deviance, there is no serious impact on their self-concept and subsequent behaviors. Meanwhile, secondary deviance refers to deviance that occurs as a response to societal reactions to primary deviance that empowers the delinquent label. (Paternoster & Bachman, 2001, p. 225). According to the logic of Lemert (1951, 1972), labeling results in critical changes in one's self-concept and let the labeled people view of themselves as deviant, and this deviant self-concept leads to secondary deviance that is consequential in the individual's permanent status.

Although Tannenbaum and Lemert established the basis of labeling theory, it was Becker's book *Outsiders* (1963) that developed the theory into one of the major explanations of crime and deviance (Akers & Sellers, 2012, p. 141). In particular, Becker (1963) contributed to the development of labeling theory in three ways (Paternoster & Bachman, 2001, p. 226). First, he proposed a definition of deviance from labeling perspective for the first time, indicating that "deviance is not a quality of the act the person commits, but rather a consequence of the application by others of rules and sanctions to an 'offender'" (Becker, 1963, p. 9). Unlike many other positivism theories that assume impeccability of rules and laws, this definition reflects the labeling theory's perspective that the rules and laws are social products that may distort the genuine status of an individual. Second, Becker (1963) expanded the scope of labeling theory by incorporating rule-creation stages into the whole labeling process. According to Becker (1963), the labeling process does not start from the point when an individual is labeled deviant by rule enforcement but from the phase of rule-creation. Becker (1963) argued that "moral crusaders" who are mainly from the upper-class prompt the creation of the rule that labels a certain behavior as a deviance. In this regard, these rules reflect the interests of the upper class and are applied to a particular group of people who do not meet the upper class' criteria or interests. Third, Becker (1963) described the historical context of the criminalization of marijuana use based on the labeling perspective. Becker (1963) insisted that Federal Bureau of Narcotics excessively emphasized the negative aspects of marijuana use through the media to encourage the enactment of the law that criminalized the marijuana use and in turn, the Bureau could use the law as means to ensure the money and power (Akers & Sellers, 2012, p. 201).

### **2.3.2 Decline and Revitalization of Labeling Theory**

From the late seventies, labeling theory began to be confronted with several criticisms. Some pointed out the theory's vague conceptualization of the key constructs and insufficient explanations of the causal links between those constructs (Gibbs, 1966, 1972; Gove, 1980; C. Wellford, 1975), while others reported unsatisfactory empirical support for the theory (Hirschi, 1975; Tittle, 1975; Wellford, 1975). In addition, some authors opposed to the theory's explicit neglect of the actual behavior as a source of secondary deviance and argued that the theory overstated the effect of labeling on one's self-concept (Akers, 1968; Gibbs, 1966).

These criticisms continued to the early eighties and relegated the labeling theory to an ineffective explanation of crime and deviance. Since the late eighties, there has been a resurgence of labeling theory with a notable effort that specified the theory's main propositions (Paternoster & Iovanni, 1989), and some rigorous empirical studies that have examined these propositions (Bartusch & Matsueda, 1996; Bernburg & Krohn, 2003; Bernburg et al., 2006; Chiricos et al., 2007; Jackson & Hay, 2013). In particular, there have been active tests of mediating processes involved in the effect of labeling on secondary deviance (Bernburg & Krohn, 2003; Bernburg et al., 2006; Heimer & Matsueda, 1994; Matsueda, 1992; Restivo & Lanier, 2015; Stewart et al., 2002; Triplett & Jarjoura, 1994; L. Zhang & Messner, 1994) and conditioning factors that interact with labeling in predicting secondary deviance (Adams et al., 1998; Bartusch & Matsueda, 1996; Bernburg & Krohn, 2003; Chiricos et al., 2007; Ciaravolo, 2011; Dong & Krohn, 2017; Heimer & Matsueda, 1994; Jackson & Hay, 2013). In addition, Braithwaite (1989) advances reintegrative shaming theory in which he specifies the condition under which the effect of labeling is criminogenic or deterrent.

## **2.4 Basic Propositions of Labeling Theory**

### **2.4.1 Factors that Influence Labeling**

Early research on the antecedents of labeling has focused on the question of how social characteristics (i.e. race, sex, social class) of the offender differentially predict labeling outcomes (Becker Howard, 1963, pp. 12–13; Raymond Paternoster & Iovanni, 1989, p. 364; Schur, 1971, p. 66). Thus, the typical hypothesis in this area of research involves that those with particular



characteristics reflecting less power and prestige will be more likely to be the object of harsher punishment (e.g. being arrested, being incarcerated) than those with better social status. This hypothesis partially reflects the conflict perspective that the deviant status is a result of the conflict between classes. For instance, labeling theorist Lofland (1969, p. 14) stated that “Deviance is the name of the conflict game in which individuals or loosely organized small groups with little power are strongly feared by a well-organized, sizeable minority or majority who have a large amount of power.”

The conclusion of early empirical studies on this hypothesis is, however, inconsistent as Paternoster and Iovanni (1989, pp. 370–371) indicated. Regarding police arrest decisions, some researchers found support for labeling theory (Dannefer & Schutt, 1982; Ferdinand & Luchterhand, 1970; Lundman, Sykes, & Clark, 1978; Piliavin & Briar, 1964), while others found no police bias based on race or social class (Bell & Lang, 1985; Black & Reiss, 1970; Teilmann & Landry, 1981; Weiner & Willie, 1971). The results of the research on pre-trial decision making and incarceration-related decision making was also inconsistent (Arnold, 1971; Bailey & Peterson, 1981; S. H. Clarke & Koch, 1980; Cohen & Kluegel, 1979; Ferdinand & Luchterhand, 1970; Hayeslip, 1979; Horwitz & Wasserman, 1980; Kowalski & Rickicki, 1982; McCarthy & Smith, 1986; Phillips & Dinitz, 1982).

This inconclusive result led researchers to reconsider the relationship between social characteristics and labeling in two ways (Paternoster & Iovanni, 1989). First, some researchers had begun to explore the effect of the victim’s social characteristics on criminal justice decision making by testing the effect of the combination of the victim/offender’s race (Baldus, Pulaski, & Woodworth, 1983; Baldus, Woodworth, & Pulaski, 1990; Bowers & Pierce, 1980; Jennings, Richards, Smith, Bjerregaard, & Fogel, 2014; Keil & Vito, 1995; Paternoster, 1984; Paternoster et al., 2003; Pierce & Radelet, 2002; Radelet & Pierce, 1991; Smith, Visher, & Davidson, 1984; Vito & Keil, 1988; Williams & Holcomb, 2001). The conclusion of the empirical research, however, still remains inconsistent. While many studies found that the defendant received more severe sentences when the case involved White victims (Baldus et al., 1990; Keil & Vito, 1990; Paternoster et al., 2003; Paternoster & Brame, 2008; Pierce & Radelet, 2002; Williams & Holcomb, 2001), especially Black defendant/White victim dyads (Bowers & Pierce, 1980; Gross & Mauro, 1989; Keil & Vito, 1995; Paternoster et al., 2003; Paternoster & Brame, 2008; Sorensen & Wallace, 1995) than the cases that do not include White victims, others could not

find a significant “White victim effect (Baldus, Woodworth, Young, & Christ, 2001; Jennings et al., 2014; Klein & Rolph, 1991).” For example, Jennings et al.’s (2014) study that used propensity scoring matching found no significant “White victim effect” on death penalty decision-making.

Second, researchers have focused on the conditioning effect of other social contexts such as the geographical location of the crime or the condition of the offender’s residential neighborhood (e.g. SES), and found the effect of the individual’s social characteristics to be dependent on these contexts (Baldus, Pulaski, & Woodworth, 1985; Bowers & Pierce, 1980; Dannefer & Schutt, 1982; Paternoster & Kazyaka, 1988; Phillips & Dinitz, 1982; Sampson, 1986; Tittle & Curran, 1988). For example, Sampson (1986) identified that police tend to arrest juveniles who reside in the neighborhoods with relatively low SES citizens than those who reside in high SES neighborhoods. In turn, this biased arrest record becomes a critical factor in determining juvenile court decision making. Thus, controlling for the number of the prior arrests when one tests the effect of an individual’s social characteristics on juvenile court decision-making may result in the wrong conclusion that there is no significant relationship between individual’s social characteristics and juvenile court disposition (Paternoster & Iovanni, 1989, p. 374). In sum, although prior research has shown that the effect of social characteristics on labeling outcome is unclear, studies focused on such conditioning factors as victim’s social characteristics and the neighborhood context provide some possibility to clarify the predictors of labeling.

## **2.4.2 The Effect of Labeling on Secondary Deviance**

**2.4.2.1 Mediating mechanism.** Unlike the Classical criminology principles that societal interventions basically deter offenders from committing further offenses, labeling theory predicts that formal or informal societal reactions promote subsequent deviance. Specifically, while deterrence theory focuses on the mediating mechanism related to the individual’s risk perception according to the formal intervention, there may be other mediating factors that may be conducive to reoffending in labeling theory (Thomas & Bishop, 1984). Due to this distinctive feature of labeling theory, clarifying the mediating processes how labeling leads to the subsequent deviance has been a critical issue in establishing the labeling theory as a viable explanation of crime and

delinquency (Paternoster & Iovanni, 1989). Labeling theorists have mainly focused on three types of the mediating variables including self-concept, blocked opportunities, and delinquent subculture.

First, labeling theory predicts that deviant labeling has an indirect effect on subsequent delinquency through altered self-concept. This mediating mechanism is rooted in symbolic interactionism that emphasizes the construction of self-identity through interpersonal interactions. Matsueda (1992) demonstrated the process by which individuals form their self-image and engage in delinquency through the cognitive process between “me” and “I”. According to Matsueda’s (1992, p. 1581) interpretation of symbolic interactionist perspective, when an individual’s impulse (i.e. delinquency) is restrained by outside forces such as other’s verbal or nonverbal responses, the individual would perceive a self-image which is “a view of self from the standpoint of others.” Once the individual comes to have a self-image as a delinquent, his or her “I” would have two options for the subsequent behavior: the “I” may react to the self-image (“me”) either positively and engage in secondary deviation or negatively and suppress the initial impulse. As this process repeats, however, the individual may feel that playing the conventional role is blocked because of the stigmatizing, and come to accept the deviant role given by other people, particularly when the deviant role provides some types of rewards (Lemert, 1951, p. 77). That is, the deviant labeling increases the probability of engaging in further delinquency. Empirical studies that tested the mediating mechanism of self-related concepts on the relationship between labeling and delinquency are rare with a few exceptions (Matsueda, 1992; Restivo & Lanier, 2015). However, some studies have provided partial support of the causal chain by demonstrating that official labeling produces negative self-identity (Farrington, 1977; Garfinkel, 1956; Jensen, 1972; Kaplan & Johnson, 1991; Schwartz & Skolnick, 1962) or that negative self-identity is associated with later delinquent behavior (Taylor, Lloyd, & Warheit, 2006). For example, Matsueda (1992) tested whether informal labeling conferred by parents indirectly influences delinquent behavior through its effect on “reflected appraisals of self” based on symbolic interactionism perspective.

Matsueda (1992) placed more emphasis on the mediating role of “reflected appraisals of self”, which is “how others see one”, rather than “self-appraisals”, which is “how one sees oneself” (Matsueda, 1992, p. 1584). Precisely speaking, Matsueda’s (1992) position focuses more on the symbolic interaction process of how informal labeling makes a labeled individual to

perceive self-image, rather than the mediating process proposed by labeling theory (e.g. Lemert, 1951) that how informal labeling alters one's self-concept (i.e. "self-appraisals"). In this study, Matsueda (1992) found that "reflected appraisals of self" as a rule violator significantly mediates the effect of parental appraisals on delinquency. However, some researchers point out that others' view of the labeled individual can be rejected by the individual (Davis, 1961; Paternoster & Iovanni, 1989; Scimecca, 1977). In other words, "reflected appraisals of self" is not always translated into the "self-appraisals." In this regard, the role of "self-appraisals" that may mediate the effect of "reflected appraisals of self" needs to be incorporated in the empirical model for a rigorous test of the effect of informal labeling in the way that labeling theory predicts.

The second line of research has focused on the mediating effect of blocked prosocial opportunities on the relationship between delinquent labeling and criminal involvement. For example, Sampson and Laub (1997) address this mediating process by reconsidering labeling theory in the context of life course perspective. Based on the state dependence perspective (Nagin & Paternoster, 1991, 2000), Sampson and Laub (1997, p. 15) argue that prior crime commission and subsequent official sanctions have a cumulative, "snowball" impact on future offending by restraining such life opportunities as educational attainment and employment. Those who are labeled as a delinquent may be alienated by teachers and school staff as a worthless student to invest in (Widdowson, Siennick, & Hay, 2016). Also, they can be the recipients of harsher school discipline including suspension and expulsion (Bernburg & Krohn, 2003; Bowditch, 1993; Hirschfield, 2008; Kupchik, 2009; Widdowson et al., 2016). All these unfavorable school environments following the deviant labeling can disturb academic attainment of the labeled individuals by limiting learning opportunities and weakening bonds to the school. The failure in educational attainment can also restrain occupational opportunities by limiting the range of possible employment (Bernburg & Krohn, 2003). In addition, research has shown that official sanctions have a direct effect on employment opportunities partially because employers tend to be reluctant to hire a formally sanctioned person (Boshier & Johnson, 1974; Buikhuisen & Dijksterhuis, 1971; Dale, 1976; Davies & Tanner, 2003; R. H. Finn & Fontaine, 1985; Kurlychek, Brame, & Bushway, 2007; Pager, 2003; Schwartz & Skolnick, 1962; Western, 2002). Moreover, labeled individuals may be confronted with unfavorable or hostile attitudes by parents, friends, spouses, and significant others (Sampson & Laub, 1997; Stewart et al., 2002). Not only the limited achievement in education and employment, but the difficult relationships

with these people would deprive the labeled individuals of the opportunity to live a normal life as an integrated member of the society, and thus, push them into delinquent routines.

Lastly, labeling theorists have paid attention to the mechanism of how labeling drives the individual into a delinquent subculture, and in turn, leads to greater involvement in crime and delinquency. Early labeling theorists commonly pointed out that social isolation caused by labeling would lead the individual to a delinquent subculture where they find comfort and security (Becker, 1963; Schur, 1971; Tannenbaum, 1938). For example, Tannenbaum (1938) noted that alienation from conventional relationships caused by labeling leads labeled individuals to seek associations with other delinquent peers as a mean of escape and security. Once the labeled individuals become a part of the delinquent groups or gangs, they will learn definitions favorable to crime through the social learning process such as imitation and differential reinforcement (Bernburg et al., 2006) or take the role of other delinquent peers as symbolic interactionism theory hypothesizes (Heimer & Matsueda, 1994; Matsueda, 1992). Thus far, empirical research on the mediating effect of delinquent subculture is scarce (Bernburg et al., 2006; Johnson, Simons, & Conger, 2004; Restivo & Lanier, 2015), and the results are inconclusive. Specifically, while some studies (Bernburg et al., 2006; Restivo & Lanier, 2015) have found a significant mediating effect of delinquent subculture, Johnson, Simmons, and Conger (2004) did not find support for the mediating hypothesis.

We can draw two important points from the discussion of these causal paths. First, although labeling theory hypothesizes that stigmatizing increases the possibility of future offending, all these mediating mechanisms commonly imply that the labeling process is not merely a “one-way deterministic process”, but a gradual, back and forth procedure occurring in various interactive relationships with others, the society, and the “self” inside the individual (Akers & Sellers, 2012, p. 139). Second, the causal paths are not perfectly independent of each other. Rather, each path influences and reinforces the other paths to embed the individual in a deviant career (Kubrin et al., 2009).

**2.4.2.2 Moderating mechanism.** There has been a recognition among labeling theorists that the effect of formal or informal labeling is conditional. For example, Paternoster and Iovanni (1989, p. 376) pointed out that *“We should not expect labeling effects to be invariant across societal subgroups...relevant contingent conditions of labeling effects must be noted at each*

*point in the causal chain.*” Matsueda (1992, p. 1581) also noted that the direction of the subsequent behavior when an individual confronts negative reactions from others can be different according to the individual’s prior life experience. All of these statements are commonly pointing out that the effect of labeling may be contingent on other variables.

The focus of the empirical research in this area has centered on how social status factors (i.e. sex, race, prior record, SES) moderate the effect of labeling on subsequent deviance. Research on the effect of formal labeling shows that the moderating effect of these social status factors is inconclusive. While some researchers have found that the positive effect of a formal labeling on subsequent deviance or delinquent self-concept is greater for Whites (Ageton & Elliott, 1974; Chiricos et al., 2007; Harris, 1975; Jensen, 1972; M. W. Klein, 1986), others have reported that Blacks are more vulnerable to formal labeling (Barrick, 2014; Bernburg & Krohn, 2003). Regarding the moderating effect of sex, some researchers have identified that females are more susceptible to the effect of formal labeling (Chiricos et al., 2007; Ray & Downs, 1986), whereas others have found that formal labeling is more detrimental to males than females (Ageton & Elliott, 1974; Keane, Gillis, & Hagan, 1989). Also, some studies found the individuals who have low socioeconomic status to be more vulnerable to formal labeling (Bernburg & Krohn, 2003), while others identified the opposite results that individuals with higher socioeconomic status were more likely to engage in subsequent deviance when they experienced a formal labeling (Ageton & Elliott, 1974; Jensen, 1972).

Meanwhile, some researchers have focused on whether the level of one’s criminality, that is often measured by the prior record or the number of delinquent behaviors, moderates the effect of formal labeling on subsequent crime. The empirical evidence, however, is also unclear. In their longitudinal study, Morris and Piquero (2013) compared the subsequent delinquency outcome between a first-time arrestee group and a non-arrestee group measured at a certain wave (wave 5) using propensity scoring matching. They found that the effect of the first-time arrest on the subsequent delinquency, measured at wave 5 and wave 6, were stronger for those who were considered at higher risk, estimated by trajectory analysis that captured the degree of prior delinquency over prior waves (from wave 1 to wave 4), than those who were considered at lower risk. They concluded that this result was consistent with “state dependence perspective” (Nagin & Paternoster, 1991, 2000) or “cumulative disadvantage perspective” (Sampson & Laub, 1997) since the result showed that the involvement in delinquency in the past and its byproduct (i.e.

arrest) caused future delinquency (Morris & Piquero, 2013, p. 861). On the other hand, Sweeten (2006) found that the effect of the first-time court appearance on high school dropout was stronger for those youths who were less delinquent than those who were more delinquent.

Thus, research on the moderating effect of social status factors or one's criminality provides only inconclusive evidence whether or not the effect of formal labeling is more detrimental for those who are assumed to have high risks of crime (e.g. those who have prior records, males, Blacks, and low SES) than those not. This disagreement also exists in theoretical logic to explain how these factors moderate the effect of labeling. According to a life-course perspective proposed by Sampson and Laub (1997), the risk factors operate in the direction that amplifies the effect of labeling, while the absence of those factors attenuates the labeling effect by providing proper resources that help resist to the labeling (see also Bernburg & Krohn, 2003). On the other hand, the opposite logic hypothesizes that people who have higher risk factors (i.e. males, minorities, low social class, and prior records) will be less susceptible to criminal labeling than those not (i.e. females, Whites, individuals from middle class, and those without prior records) because they have less to lose from formal criminal labeling than their counterparts (Chiricos et al., 2007).

When it comes to the informal labeling, only a few studies have tested the moderating effect of social status factors with some exceptions (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994). In general, research shows that the effect of informal labeling is more pronounced for those considered to have high-risk factors. For example, Adams et al. (1998) found that using a national probability sample, the effect of informal labeling on self-reported delinquency is greater for black individuals. Although Heimer and Matsueda (1994) tested and found the mediating effect of informal labeling on the relationship between disadvantaged structural backgrounds and delinquency, their idea also implies that informal labeling is more consequential for disadvantaged individuals. Bartusch and Matsueda (1996) tested the interaction effect of sex and informal labeling measured with parental appraisals. The result revealed that males are more vulnerable to informal labeling than females. Drawing from gender identity theories, Bartusch and Matsueda (1996, p. 168) argued that labeling as a rule violator may have a greater "motivating effect" on delinquency for males who have masculine identities in general.

In sum, prior research has consistently shown that informal labeling produces higher levels of subsequent delinquency for those who are likely to have higher risks in their demographic status, while the moderating effects of demographic factors for the formal labeling is inconsistent. One possible explanation for this discrepancy in the direction of moderating effect between the formal labeling and the informal labeling can be found in the difference in the individuals' attitudes toward the source of formal labeling. In general, those who have more risk factors (e.g. minorities, prior delinquency, low social class, and young males) may be assumed to have more negative attitudes toward the criminal justice authority (Adams et al., 1998; Jensen, 1972; Walker, Spohn, & DeLone, 2012; Wilbanks, 1987). These negative attitudes toward the source of formal labeling can result in the resistance to the labels imposed by criminal justice institutions, and dilute the positive effect of labeling on delinquent self-concept (Adams et al., 1998). It is, however, also possible that these negative attitudes found in some samples of a certain group are not found in other samples. In turn, this variation in negative attitudes of a certain group can produce a somewhat inconsistent direction of the moderating effect.

On the other hand, there is no established literature indicating that certain subgroups have different attitudes toward the source of informal labeling (e.g. family, friends, neighbors, and teachers). Therefore, the moderating effect of demographic factors may be relatively straightforward than the case of formal labeling. In a similar vein, Adams et al. (1998) argued that "the perceptions of the credibility of the labelers" can explain the divergence between the greater positive effect of informal labeling for Blacks, and the greater positive effect of formal labeling for Whites.

It may be premature, however, concluding that the effect of informal labeling is always more consequential for those considered to have high-risk factors (i.e. males, those with lower SES, racial minorities, those with a higher level of prior delinquency) because the number of studies that addressed this topic is small. Also, it is possible that people who have greater social power (e.g. males, those with higher SES, Whites) can be less sensitive to informal labeling because they have more social resources to counteract the effect of informal labeling imposed to them compared to their counterparts. If so, the effect of informal labeling on later delinquency would be stronger for their counterparts (i.e. females, those with lower SES, racial minorities). Thus, there is a potential that the direction of moderation of social status factors between informal labeling and later delinquency varies from sample to sample. Also, researchers should



consider that the “high risk-low risk” framework is not the only option in grouping social status factors. Rather, social power can be another option for grouping people who have different social status factors. Also, each social status factor such as sex, prior delinquency, SES, race needs to be considered separately because each of these factors might have distinctive characteristics.

Meanwhile, a line of research focuses on the moderating role of social-environmental factors in the association between labeling and subsequent delinquency. The research on this area has mainly centered on the question of how social control factors condition the effect of labeling on future delinquency. Relatedly, Sherman et al. (1992, p. 682) propose two contrasting hypotheses, which they termed, “greater vulnerability” hypothesis and “less vulnerability” hypothesis. According to greater vulnerability hypothesis, the effect of labeling is more detrimental to those who have a higher level of social control resources because they concern more about losing what they already have. On the other hand, the less vulnerability perspective hypothesizes that people who have greater stakes in conformity or higher level of social control resources are less vulnerable to labeling because these resources could insulate them from the harmful influence of labeling.

In general, the less vulnerability perspective has drawn more attention from theorists than greater vulnerability hypothesis. That is, the role of social control in reducing the harmful effect of sanctioning has also been emphasized in a variety of other theoretical perspectives. For example, Sherman (1993) argues in his defiance theory that lack of social bonding, as well as the perceived unfairness of sanction, is a key factor that increases the possibility of future offending. Sampson and Laub’s (1997) cumulative disadvantage perspective also views that the effect of sanctioning is more harmful to those who have a low level of stakes in conformity. Lastly, Braithwaite’s (1989) reintegrative shaming theory proposes that when sanctioning is implemented in a way that increases the offender’s social bonding to the community, the future crime commission would be less likely.

Meanwhile, Liu (2000) examined peer delinquency as a conditioning variable in the relationship between parental labeling and delinquency. In labeling theory, there has been a recognition that delinquent peer association is an outcome of labeling and mediates the effect of labeling on delinquency. However, Liu (2000) hypothesized that peer delinquency can also be an independent factor that can interact with informal labeling to predict delinquency. This perspective is reasonable given that delinquent peer association is caused not only by informal

labeling but also by a variety of factors including neighborhood disadvantages (Akers, 1998), low self-control (Gottfredson & Hirschi, 1990), and strain (Cloward & Ohlin, 1960). Liu (2000) speculated that delinquent peer association could exacerbate the harmful effect of informal labeling on delinquency by providing the labeled individual with criminal opportunities or weakening conventional social ties. As expected, the result showed that the positive effect of parental labeling on delinquency was higher for adolescents who had a higher number of delinquent friends.

## **2.5 Developments of Labeling Theory — Focusing on Reintegrative Shaming Theory**

Early critics of labeling theory have pointed out its low empirical validity (Akers & Sellers, 2012; Hagan, 1973; Hirschi, 1975; Tittle, 1975; Wellford, 1975). In general, research has produced both a positive- and a negative relationship between criminal justice sanctioning and deviance based on two contradicting theoretical perspectives: labeling theory and deterrence theory (Barrick, 2014). This inconsistent relationship between the two variables in empirical research leads scholars to consider more sophisticated models including mediating and moderating mechanisms (Paternoster & Iovanni, 1989). Braithwaite also pointed out that the limited empirical support for labeling theory resulted from the failure of “distinguishing the crime-producing consequences of the stigma that is open-ended” (Braithwaite, 1989, p. 4). Based on this idea, Braithwaite (1989) advanced “reintegrative shaming theory” in his book *Crime, Shame, and Reintegration* as an attempt to render the labeling theory more empirically viable (Akers & Sellers, 2012, p. 146).

Thus, Braithwaite’s (1989) reintegrative shaming theory was advanced to find an answer to the question of what types of labeling produce secondary deviance. Shaming, the key concept in reintegrative shaming theory, corresponds to the concept of labeling in labeling theory although the exact meaning is distinguished from each other. Braithwaite (1989) defined the concept of shaming as “all social process of expressing disapproval which has the intention or effect of invoking remorse in the person being shamed and/or condemnation by others who become aware of the shaming” (Braithwaite, 1989, p. 100). Thus, the shaming can have various forms and consequences, while labeling is seen as something that has an only positive effect on secondary deviance. Shaming is also distinguished from a mere punishment in the deterrence

perspective in that the shaming aims at “moralizing” the offender (Braithwaite, 1989, p. 100). Reintegrative shaming theory further proposes that the shaming is predicted by interdependency and communitarianism. Braithwaite conceptualized the interdependency as the extent to which individuals are attached to or dependent on each other in the network and communitarianism as the extent to which interdependency among individuals in the community. The theory predicts that the more individuals are interdependent, the more effective any type of shaming would be. Likewise, the more communitarian the society is, the more the shaming would be prevalent and extensive.

In particular, Braithwaite (1989) suggested two types of shaming: stigmatization and reintegrative shaming. Stigmatization is a type of shaming that does not involve any effort to reunite the offender with the community. Instead, the offender is alienated from conventional relationships and opportunities and comes to have a master status as a deviant. In turn, stigmatization leads the individual to engage in additional crime through such factors as embeddedness in criminal subcultures and blocked legitimate opportunities. In contrast, reintegrative shaming, which accompanies the efforts to reintegrate the offender back into the community, is hypothesized to reduce the possibility of future crime. Those efforts include “words or gestures of forgiveness or ceremonies to decertify the offender as deviant” (Braithwaite, 1989, pp. 100–101). Reintegrative shaming occurs when the community labels the offense as deviant, preserving the identity of the offender as good. That is, the reintegrative shaming does not focus on labeling and separating the offender from the community but aims to moralize and reintegrate the offender into the community by evoking remorse for what he did. Thus, the reintegrative shaming operates before the offender has a deviant master status.

The key hypothesis in reintegrative shaming theory involves that individuals who experienced reintegrative shaming will be expected to have a lower likelihood of future offending. As a macro-level transformation, one can draw a hypothesis that communities that execute reintegrative shaming processes will have lower crime rates compared to the communities where the processes are absent. Also, a moderating effect of interdependency on the relationship between reintegrative shaming and subsequent crime can also be testable.

Empirical research, however, has produced mixed results. While some studies were supportive of the theory (Ahmed, 2001; Makkai & Braithwaite, 1994; Murphy & Harris, 2007), others showed contradicting (Botchkovar & Tittle, 2008; Botchkovar & Tittle, 2005; Miethe, Lu,

& Reese, 2000; Tittle, Bratton, & Gertz, 2003; Zhang, 1995) or mixed results (Hay, 2001; Zhang et al., 1996; Zhang & Zhang, 2004). Makkai and Braithwaite (1994) conducted the first empirical test of the theory using an Australian sample of nursing homes. The result revealed that when the Australian federal government enforced the inspection of the nursing homes based on the reintegrative shaming approach, the compliance with the law significantly improved, while the inspection based on the stigmatizing approach reduced the compliance. In particular, the positive effect of reintegrative shaming approach on compliance was amplified when there is an interdependency between the inspection team members and the nursing home directors. Murphy and Harris (2007) added supportive evidence by demonstrating that Australian tax offenders' perceptions of reintegration during the tax law enforcement process and subsequent tax violations had a negative association. Murphy and Harris (2007) measured the shaming as a continuous variable using a reintegrative shaming — stigmatization spectrum. Also, they found that shame-related emotions mediated the effect of shaming on subsequent tax violations.

On the other hand, using a convenience sample of Russian adults, Botchkovar and Tittle (2008) found that the reintegrative shaming experiences were positively related to the future projection of three out of four types of misconduct, which was contradicting to the theory. Moreover, the moderating effect of interdependency showed an opposite direction to the contention of the theory. Furthermore, although their disintegrative shaming measure was found to increase the likelihood of future misconduct, the relationship was not mediated by guilt and fear of respect loss as the theory predicts. Meanwhile, Hay (2001) tested the theory, focusing on how parental sanctioning methods work as a way of reintegrative shaming. The result showed partial support for the theory. Although parental shaming had an independent, negative effect on adolescent delinquency, it did not interact with reintegration. This result was somewhat inconsistent with the theory's prediction that the shaming is effective in reducing future crime only when it is implemented in a reintegrative way.

This somewhat weak empirical support aroused criticism of the theory (Botchkovar & Tittle, 2005; Braithwaite & Braithwaite, 2001). First, the effect of shaming may differ depending on the characteristics of those who are shamed. For example, Botchkovar and Tittle (2005, p. 434) pointed out that social efforts to reintegrate offenders may not work for some people because these efforts can be regarded as a violation of their 'autonomous integrity.' In particular, the member of disadvantaged communities tends to seek respect not from the conventional

values, but from their street codes such as toughness, manhood, and physical power (Anderson, 2000). For those people, trying to reintegrate them through the way suggested by reintegrative shaming theory may backfire. Second, the effect of shaming can be different according to the type or degree of shaming. Braithwaite and Braithwaite (2001, p. 43) indicated that the interaction effects of shaming, reintegration, and stigmatization may or may not work according to the context of the shame. Although there have been some efforts to specify the context of the shame (Braithwaite & Braithwaite, 2001), the basic conceptualization of “shame” in reintegrative shaming theory may be too abstract to be operationalized.

Despite these critics, reintegrative shaming theory has distinctive policy and theoretical implications. First, it constitutes the core of the restorative justice programs that focus on both the recovery from the criminal offenses and the rehabilitation of the offender through reintegrative responses. Although the effectiveness of the extant restorative justice programs is in dispute (Latimer, Dowden, & Muise, 2005), more effective attempts will be sustained as an effort to reduce recidivism based on the philosophy of the reintegrative shaming. Second, reintegrative shaming theory provides a meaningful theoretical framework to explain inconsistent relationships between the sanction and recidivism. Beyond the limits of previous theoretical frameworks that look incompatible with each other (i.e. deterrence theory, labeling theory), reintegrative shaming theory attempts to specify the social, informal conditions under which the outcome of the sanctions can be different. That is, the theory proposes that the sanctioning may have a deterrent effect when it is implemented in a reintegrative way, whereas the same sanctioning may have a labeling effect when it is implemented in a stigmatizing way. With more theoretical refinement and empirical research, reintegrative shaming theory would provide a useful tool that explains the effect of the sanction.

## **2.6 Limitations in Prior Research on Labeling Theory**

In spite of recent developments in labeling theory research, there still remain some issues that should be further addressed. First, the focus of the research has mainly centered on the formal labeling. On the other hand, informal labeling has received relatively scant attention from the researchers with some exceptions (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Triplett & Jarjoura, 1994). Given the theory’s historical

background that has concentrated on the context of how the state discriminatorily applies a label to particular members of the society, this emphasis on formal labeling is understandable. This exclusive focus on formal labeling, however, has been criticized as a crucial limitation of labeling theory (Akers & Sellers, 2012; Kubrin et al., 2009). Critics point out that labeling theory overstates the role of formal labeling in generating further deviance and pays little attention to the role of social surroundings including family, friends, teachers, and neighbors (Kubrin et al., 2009). Incorporating the effect of informal labeling, therefore, can enrich the literature by overcoming the inherent limitation of labeling theory.

Moreover, unlike official labeling that occurs in a limited time span, informal labeling tends to occur over a relatively long time in a variety of ways because an individual's life cannot be separated from social interaction with significant others. This relative frequency of informal labeling, in turn, may cause a more consequential effect on the individual's self-concept, especially for adolescents who are more likely to be sensitive to other's appraisals than adults. More importantly, even in the presence of formal labeling, it is informal labeling that more directly influences one's self-concept, involvement in the delinquent subculture, and blockage of opportunities. That is, if the fact that an individual was formally sanctioned are not broadcasted to those who know the individual, the formal labeling would be less influential (Paternoster & Iovanni, 1989). This implies that the effect of formal labeling may be partially mediated by informal labeling. In addition, people who apply informal labeling, which includes parents, teacher, and friends are the most significant and reliable source of relationships to adolescents. This means that appraisals of these people have significant effects on adolescent self-identity. On the other hand, these people are those who are always with adolescents Thus, adolescents may not take informal labeling by them seriously. That is, the effect of informal labeling can be either stronger or weaker than the effect of formal labeling according to the adolescents' attitude toward the source of labeling. Taken together, all of these distinctive features of informal labeling are the reasons why labeling theory should pay more attention to the effect of informal labeling in order to be developed.

Second, prior studies have only tested the between-individual differences in examining the effect of labeling on delinquency (e.g. People who are labeled will be more likely to be involved in delinquency than those not). The original idea of labeling theory is, however, more consistent with explaining within-individual change in criminal involvement by labeling process

rather than comparing the difference in criminal involvement between those who labeled and those not. In other words, the theory basically posits that an individual who experiences deviant labeling will be more likely to be involved in criminal behavior than the period before they experienced the deviant labeling. The idea that emphasizes this within-individual change in criminal involvement is found in the work of many early theorists (Lemert, 1951; Tannenbaum, 1938). Lemert's (1951) conceptualization of primary deviance and secondary deviance based on the time sequence is an example. In addition, Sampson and Laub (1997) incorporated labeling theory in their life-course perspective by arguing that labeling has an indirect effect on an individual criminality through its effect on limited opportunities. In addition, given the nature of informal labeling that occurs through continuous interaction with others, examining how changing in degrees of informal labeling over time influence subsequent crime involvement necessarily requires within-individual analyses of the effect of informal labeling.

Self-identity, which is a key mediating variable of labeling theory, has also been considered as an entity that changes over time. According to the symbolic interactionist perspective, individual self is a consequence of social interaction with others. When considering that the result of a social interaction might vary from time to time, it is reasonable to assume that self-identity is also an unstable being instead of a fixed trait. Empirical studies (Harter, 1986; M. Rosenberg, 1979, 1986) on self-concept or self-esteem have also shown that these constructs are not fixed early in life. Rather, these studies find that the level of self-identity changes over time according to "age, performance feedback, educational transitions, the social context, and social structural variables" (Crocker & Major, 1989, p. 611).

Research (Burt, Simons, & Simons, 2006; Laub & Sampson, 2003; Sampson & Laub, 1993) also finds that one's criminality or the level of crime involvement is not absolutely stable. According to Gottfredson and Hirschi's (1990) self-control theory, the level of self-control, which is allegedly the only cause of crime, is fixed after the first decade of life, and the difference between individuals does not change over the life-course. Many theoretical perspectives and empirical studies, however, have shown that an individual's criminal propensity or their level of criminal involvement changes over time by the influence of a variety of different factors. One example would be Sampson and Laub's (Laub & Sampson, 2003; Sampson & Laub, 1993) age-graded theory of informal social control. They argue that although there exists some continuity in criminal involvement from childhood to early adulthood, individuals who

experience increased adult social control during early adulthood discontinue their criminal career. Burt, Simons, and Simons (2006) also found substantial instability in self-control from one point in time to another using a sample of African American children. They also found that change in various environmental factors including parenting, attachment to the teacher, and differential peer associations account for this within-individual change in self-control.

In sum, a variety of theoretical perspectives and empirical studies have demonstrated that informal labeling, self-identity, and criminal involvement are not constructs that are fixed at some point but something that undergo changes over time. In spite of this nature of informal labeling, self-identity, and delinquency that involves the within-individual change, there are few empirical tests that have examined within-individual dynamics among these constructs over time. Although some studies (Bernburg & Krohn, 2003; Bernburg et al., 2006; Matsueda, 1992; Restivo & Lanier, 2015) have adopted longitudinal designs, the regression-based methods they adopted have limitations in controlling for all of the between-individual differences because regression analyses could only control for the variables that are available in the data. This prevents to observe within-individual dynamics from time to time.

Third, labeling theory has not paid enough attention to the actor's own role to explain criminal involvement. In other words, the theory focuses only on the role of labeling itself to predict criminal behaviors without considering any differences in the actor's internal factors. This aspect of labeling theory is well explained in a criticism by Akers and Sellers (2012, p. 142).

*Even powerless people do not necessarily acquiesce to the application of a deviant label, allowing it to immediately define their self-identities. They fight back, reject, deny, and otherwise negotiate their identities (Rogers & Buffalo, 1974).*

Kubrin et al. (2009, p. 207) also pointed out that

*Another question often raised by critics is: Where is human agency? They question the overly passive role labeling theory has assigned to offenders...In short, labeling theory ignores the possibility of genuine commitment to deviance on the part of the rule breaker; they completely neglect the fact that someone has defied the conventions of society or broken the law (Gibbs, 1966).*

That is, these critics commonly point out that prior literature on labeling theory is missing out on the possibility that the effect of labeling can vary by the variation in internal factors such as



individual's self-identity. In particular, labeling theory regards an individual's self-identity as an outcome of deviant labeling. However, it is also possible that an individual's self-identity might operate as a moderating factor that can influence the effect of labeling on subsequent deviant behaviors. Recently developed cognitive theories (Giordano et al., 2002; Maruna, 2001; Paternoster & Bushway, 2009) that emphasize the role of cognitive change in the desistance process shed some light on the conditioning role of an individual's self-identity in the relationship between labeling and crime involvement. These theories basically argue that internal motives lead to the transformation of self-identity. The specific arguments of these theories are discussed in Chapter 4.

Lastly, there have not been enough tests of how the effect of labeling can be conditioned by social environmental factors. In particular, prior empirical studies have paid little attention to the possibility that social control factors might condition the effect of labeling on secondary deviance with a few exceptions (Ciaravolo, 2011; Jackson & Hay, 2013; Liu, 2000). Some theoretical frameworks, however, suggest the possibility that the harmful effect of labeling can be diminished by a variety of social control factors such as stakes in conformity (Sherman et al., 1992) or reintegrative skills (Braithwaite, 1989). Despite these notable theories that focused on the moderating role of social control resources (Sherman et al., 1992) or reintegration skills (Braithwaite, 1989) that may increase social bondedness between the conventional society and the labeled individual, there is not enough attention to the question of whether the degree of labeled individual's social bondedness itself truly conditions the effect of labeling on secondary deviance. One of the key elements of social bondedness of an individual would be the attachment to others (Hirschi, 1969). Also, delinquent peer association needs to be examined more as a potential moderating factor that may condition the effect of informal labeling on delinquency, given that delinquent peers can provide the labeled individual with opportunities for delinquent behaviors and definitions favorable to delinquent behaviors (Liu, 2000, p. 503)

## CHAPTER 3

### THE CURRENT STUDY: RESEARCH QUESTIONS, DATA, AND METHODS

#### 3.1 Overview of The Current Study and Research Questions

With the limitations of prior research in mind, this dissertation focuses on two broad issues. The first issue involves examining mediating processes involved in the within-individual effect of perceived informal labeling on delinquency. Specifically, this dissertation examines whether deviant self-concept, delinquent peer association, and weakened attachment to parents, teacher, and friends account for the within-individual effect of perceived informal labeling on delinquency. Secondly, a variety of moderating processes are examined based on the within-individual dynamics between perceived informal labeling and delinquency. The moderating variables include demographic factors (i.e. sex and prior delinquency), a human agency factor (i.e. deviant self-concept), social control factors (i.e. attachment to parents, attachment to teachers, and attachment to very close friends), and a social learning factor (i.e. delinquent peer association).

Chapter 4. addresses the first issue by testing the within-individual effect of informal labeling on adolescent delinquency and mediating processes involved in this relationship. As mediating variables, this study uses deviant self-concept, delinquent peer association (i.e. the number of delinquent peers), and weakened attachment to significant others (i.e. parents, teachers, and very close friends). In addressing the mediating processes, two important points should be noted. First, this study uses deviant self-concept as a mediating variable that has often been omitted in prior research on the effect of informal labeling on delinquency (Heimer & Matsueda, 1994; Matsueda, 1992). Although the theoretical proposition of labeling theory suggests that the effect of informal labeling on delinquency is partially explained by deviant self-concept, there are few empirical studies that have tested this mediating mechanism. Rather, existing studies (Heimer & Matsueda, 1994; Matsueda, 1992) examined the mediating effect of perceived informal labeling on the relationship between objective informal labeling and delinquency. That is, there has been no empirical study that tested the causal chain that connects perceived informal labeling, deviant self-concept, and delinquency.

According to Matsueda's (1992) logic, perceived informal labeling is enough to represent deviant self-concept because the symbolic interactionist perspective proposes that the self is a reflection of others' appraisals of the individual. It is, however, evident that the exact proposition of labeling theory involves the mediating process of "self-appraisals," that is, how the individual views himself or herself (Jensen, 1972; Matsueda, 1992; Restivo & Lanier, 2015). Also, Matsueda's (1992) logic ignores the fact that perceived informal labeling is not automatically transformed to self-concept. In other words, perceived informal labeling can be denied or rejected by the individual (Davis, 1961; Paternoster & Iovanni, 1989; Scimecca, 1977). In this regard, the deviant self-concept should be included as a mediating variable between informal labeling and delinquency according to labeling theory.

One thing that should be emphasized is that deviant self-concept is a distinctive concept from global self-esteem, which is "the individual's overall positive or negative self-attitude (Rosenberg, Rosenberg, & McCord, 1978, p. 280)". The self-concept in labeling theory context should be something that is relevant to deviant behavior (i.e. deviant self-concept) instead of global self-esteem because the theoretical explanations that connect these concepts to delinquent behaviors are different. According to labeling theory, people behave according to their self-concepts. Thus, the self-concept that predicts deviant behaviors in labeling theory is a deviant self-concept. On the other hand, theories that explain the effect of global self-esteem on delinquency (e.g. Kaplan, 1975) propose that those who have a low global self-esteem are involved in delinquency because they want to enhance their self-esteem through delinquent behavior (see Rosenberg et al., 1978). In this regard, focusing on the deviant self-concept as a mediating variable instead of other types of self-concept such as global self-esteem or self-efficacy would be more suited for the theoretical proposition of labeling theory or symbolic interactionist perspective that emphasizes the connection between the acceptance of deviant role and involvement in delinquency (see Matsueda, 1992).

Second, this study examines the within-individual mediation processes and the between-individual mediation processes at the same time and compare them. As discussed above, the original idea of labeling theory implies a within-individual change in crime by labeling processes (Lemert, 1951; Sampson & Laub, 1997; Tannenbaum, 1938). Also, all of the constructs in the causal chain (i.e. informal labeling, deviant self-concept, and delinquency) have been found to be unstable over time. That is, the degree of informal labeling changes in the continuous

relationship with surrounding people, and the degree of deviance in an individual's self-concept and behaviors also changes over time (Harter, 1986; Laub & Sampson, 2003; Rosenberg, 1979, 1986; Sampson & Laub, 1993). All of these theoretical propositions require the examination of the within-individual effects of informal labeling on delinquency. Based on these theoretical justifications of examining the within-individual mediation processes, comparing the results of the within-individual analyses to the between-individual analyses that have often been used in prior research may provide an insight how labeling theory research should be modified and developed.

More specifically, the current study examines the effect of the within-individual change in perceived informal labeling from year to year on the level of delinquency in the next year after controlling for between-individual differences. The analytic strategy of this study makes this possible by automatically controlling for all potential individual differences. In other words, this method allows researchers to isolate the within-individual effect of the independent variable on the dependent variable from between-individual effect.

Chapter 5. explores moderating processes by examining how demographic factors, a human agency factor, social control factors, and a social learning factor condition the within-individual effect of informal labeling on delinquency. Prior research (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994) provides some theoretical reasons and empirical evidence of how these variables moderate the effect of informal labeling on delinquency. These results, however, might be different if the moderation occurs in the within-individual dynamics between perceived informal labeling and delinquency.

Specifically, prior research shows that the effect of informal labeling could be different according to the demographic factors including sex and prior delinquency. The current study examines how these demographic factors moderate the within-individual effect of perceived informal labeling on delinquency, especially using a non-American sample.

The current study also examines whether a human agency factor moderates the within-individual effect of perceived informal labeling on delinquency. Although human agency is somewhat elusive and unclear concept, criminologists (Paternoster & Iovanni, 1989) have often considered the concept, self-identity as a type of human agency (see Chapter 5.). Based on this idea, the current study conceptualizes human agency as self-identity. More specifically, the current study operationalizes the concept self-identity as deviant self-concept given that prior

studies (Heimer & Matsueda, 1994; Jensen, 1972; Matsueda, 1992; Restivo & Lanier, 2015) have found deviant self-concept to be significantly associated with delinquency more than any other dimensions of self-identity such as global self-esteem or self-efficacy. In labeling theory literature, deviant self-concept has often been viewed as an outcome of formal or informal labeling (Heimer & Matsueda, 1994; Edwin M. Lemert, 1951; Matsueda, 1992; Paternoster & Iovanni, 1989). Recent research on desistance, however, suggests that one's self-concept can change by internal motive (Paternoster & Bushway, 2009) or *hooks for changes* such as marriage or employment (Giordano et al., 2002). These studies commonly point out that self-concept is not only an outcome of labeling but something that can be developed by other factors including internal motive and social control factors. That said, deviant self-concept can be regarded as an independent factor that can interact with labeling to predict delinquency.

Lastly, social environmental factors that the current study focuses on include attachment to others and delinquent peer association. Given that social control factors are theorized to be negatively related to delinquent outcomes in social bonding theory (Hirschi, 1969), and recent theoretical efforts such as reintegrative shaming theory (Braithwaite, 1989) and defiance theory (Sherman, 1993) emphasize the role of social bonding factors in reducing the negative effect of labeling, social control factors such as attachment to surrounding people are also hypothesized to reduce the harmful effects of perceived informal labeling on delinquency. Also, the moderating effect of delinquent peer association is tested based on prior research (Liu, 2000) that posited delinquent peers as a source of criminal opportunities and weakened social ties with conventional people.

In sum, specific research questions of the current dissertation are as follows. First, does perceived informal labeling have a positive within-individual effect on adolescent delinquency? Second, do deviant self-concept, attachment to others (i.e. parents, teachers, and very close friends), and delinquent peer association respectively mediate the within-individual effect of perceived informal labeling on delinquency? Third, how do sex, prior delinquency, deviant self-concept, attachment to others (i.e. parents, teachers, and very close friends), and delinquent peer association respectively moderate the within-individual effect of perceived informal labeling on delinquency? The first two questions are addressed in Chapter 4, and the last question is addressed in Chapter 5.

### 3.2 Data

The present dissertation uses data from the Korea Youth Panel Study (KYPS) directed by The Korean National Youth Policy Institute. From 2003 to 2008, the KYPS had followed two-panel groups every year. Thus, each panel data set consists of six waves. The two-panel groups include the fourth grade in elementary school (10 years old) and the second grade in middle school (14 years old) in 2003. This dissertation uses data from the second grade in the middle school panel. The survey of this panel started in October 2003 with 3,697 second grade middle school students selected through the following process and continued every year until December 2008, which is one year after their last year in high school.

The sample was selected using stratified multistage cluster sampling. Specifically, a target sample size (2,967)<sup>1</sup> was allocated across regions in proportion to the number of students in second-year middle schools in 12 regions of South Korea (Seoul Metropolitan City and 11 other metropolitan cities and provinces). Then, a sample size of schools in each region was determined based on the average number of students per class in each region as the entire selected class for each selected school was surveyed. Using probability sampling proportional to size (PPS) that reflects the number of second-year middle school students by school, schools were sampled from every region, and one class was randomly sampled from each selected school. Afterward, the first survey was conducted with the students (3,697)<sup>2</sup> in those selected classes and their parents, and the final number of samples in the first-year survey was 3,449 (i.e. the successful surveying rate in the first year was 93.3%).

Baseline data in 2003 were collected through a group-administered survey from the students in the selected classrooms. Data from their parents were gathered through a telephone survey. From the second wave, the surveyors traced each student and collected data from the students through a face-to-face meeting with self-reported questionnaires. Data from their parents were also collected through a telephone survey. Like any another longitudinal study, the KYPS has panel attrition. The initial number of respondents in wave one (3,449) declined as

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<sup>1</sup> The initial target sample size was 3,000 but Jeju island was excluded in the final decision.

<sup>2</sup> As the entire selected class for each selected school was surveyed, the number of students is not exactly the same with the initial target sample size.

waves proceed to 3,118 (92.4%) in wave two, also 3,125 (90.6%) in wave three, 3,121 (90.5%) in wave four, 2,967 (86.0%) in wave five, and 2,833 (82.1%) in wave six.

### **3.3 Measures**

Every wave of the KYPS data contains a variety of individual-level self-report measures including informal labeling, deviant self-concept, peer delinquency, respondents' delinquency, and demographic variables. Regarding the dependent variable of the current study, each wave of the KYPS data contains measures of fourteen types of self-reported delinquent behaviors in a Korean context: smoking cigarettes, drinking alcohol, having unexcused absence from school, running away from home, having sex, severely beating other people, gang fight, forcefully taking others' things or money, stealing others' things or money, sugar-daddy association (having paid sexual relations with the adult), severely teasing or bantering other people, threatening other people, collectively bullying, sexual assault or sexual harassment. The measure of having an unexcused absence from school, however, was not included in the last wave since the last survey was conducted after the panel had graduated from the high school. For each type of delinquent behavior, those who had engaged in that behavior during the past one year have been coded 1, and those who had not have been coded 0.

The dependent variable, delinquency, is measured with seven types of serious delinquent behaviors: severely beating other people, gang fight, forcefully taking others' things or money, stealing others' things or money, severely teasing or bantering other people, threatening other people, and collectively bullying. Other status delinquency such as smoking cigarettes, drinking alcohol, having an unexcused absence from school, running away from home, and having sex are excluded because these types of behavior are not regarded as delinquent behaviors in general when the respondent reaches age 18(wave 5) or 19 (wave 6). Each of the answers for these seven types of delinquent behavior is summed up to create a combined measure of the number of different types of delinquency committed by the respondent. The combined measure of these seven types of delinquent behavior is used as a dependent variable of the current dissertation. In order to establish causal order in a longitudinal design, the delinquency measure is matched with the measure of informal labeling that is measured one year earlier than each of the delinquency measure. The Cronbach's alpha ranges from .60 to .71. The delinquency measure at the first

wave is used as a measure of prior delinquency. The Cronbach's alpha of prior delinquency is .65.

The key independent variable of interest, perceived informal labeling, is measured with two items tapping the respondent's perceived appraisals by the generalized other. Those items ask respondents whether they agree or disagree with the statements of "People around me regard me as a problem youth." and "People around me regard me as a juvenile delinquent." Although the items are not divided by the specific source of informal labeling such as parents, teacher, and friends, those items are more suited for the symbolic interactionist perspective that the self is a reflection of the appraisals of the generalized other rather than a specific person or a group of specific people. This measure also corresponds to the measure of perceived informal labeling in other prominent studies (Heimer & Matsueda, 1994; Matsueda, 1992). For example, Matsueda (1992) constructed the measure of *reflected appraisals as a rule violator from the standpoint of parents* with two items: "get into trouble," and "breaks the rules". The scale reliability coefficient for this measure ranges from .88 to .95.

The current study tests three types of mediating mechanisms involved in the relationship between perceived informal labeling and delinquency: deviant self-concept, delinquent peer association, and weakened attachment to parents, teacher, and friends. Moderating variables of the current study are sex, prior delinquency, deviant self-concept, attachment to parents, attachment to the teacher, and attachment to peers.

The measure of self-concept used by prior studies varies. While some studies (e.g. Rocque et al., 2016) focused more on "deviant" aspect of self-concept, others use broader negative self-identity that includes the concept of low self-esteem (Na, Paternoster, & Bachman, 2015; Restivo & Lanier, 2015). Given the theoretical perspective of informal labeling literature that emphasizes the acceptance of others' appraisals that are related to deviant nature (see Matsueda, 1992, p. 1578), this study uses items that capture deviant self-concept instead of broader negative self-identity. Deviant self-concept is measured with two items asking whether the respondents agree or disagree with the statements of "I regard myself as a problem youth." "I regard myself as a juvenile delinquent." These items reflect how the respondent sees himself or herself. Each question has response categories ranging from (1) strongly disagree to (5) strongly agree. The scale reliability coefficient ranges from .78 to .85. This measure is used for both a mediating variable and a moderating variable.



Delinquent peer association is measured with four items for which respondents are asked to report the number of very close friends who had committed four types of delinquent behaviors during the past one year, including drinking alcohol, smoking cigarettes, severely beating other people, and taking something away from others using force. The delinquent peer association is measured by summing the number of friends who committed each type of delinquent behaviors but the number of very close friends of each behavior is limited to the maximum number of 20. This measure is in line with the conventional measure of peer delinquency used in other studies (e.g. Elliott, Huizinga, & Ageton, 1985; Meldrum, Young, & Weerman, 2009). The Cronbach's alpha for this measure ranges from .54 to .80.

Parental attachment is measured with six items, including "My parents and I try to spend much time together", "My parents always treat me with love and affection", "My parents and I understand each other well", "My parents and I candidly talk about everything", "I frequently talk about my thoughts and what I experience away from home with my parents", and "My parents and I have frequent conversations". All these items also have five response categories from (1) strongly disagree to (5) strongly agree. The parental attachment measure is created by combining all these items. These items are well suited with the theoretical conception of parental attachment or indirect parental controls in social control literature that emphasizes "emotional bonds" rather than direct controls like supervision and discipline (Wright & Cullen, 2001, p. 684). The Cronbach's alpha of this measure ranges from .86 to .90.

In the KYPS data, there are three items tapping attachment to teachers. Those are "I can talk about all my troubles and worries to my teacher without reservation", "My teacher treats me with love and affection", and "I hope to become a person just like my teacher". The response categories for these items also range from (1) strongly disagree to (5) strongly agree. These three items are combined to measure attachment to the teacher. This measure of attachment to teachers is also based on the original conception of attachment in social control theory that emphasizes indirect controls (Hirschi, 1969; Liska & Reed, 1985). The Cronbach's alpha ranges from .70 to .80.

The KYPS data contain 4 items tapping attachment to very close friends. The questionnaire provides the meaning of "very close friends" by explaining that "very close friends are not limited to school friends but include any friends of all ages that you usually get along". Afterward, questions regarding attachment to very close friends follow. Those questions are "I

hope to maintain the close relationships with them for a long time”, “I am happy whenever I get together with them”, “I try to have the same thoughts or feelings with them”, and “We can frankly talk about our troubles and worries”. All these questions that have five response categories ranging from (1) strongly disagree to (5) strongly agree are combined to measure attachment to very close friends. This measure is also similar to other attachment measures that focus on emotional bonds between people (Hirschi, 1969; Liska & Reed, 1985; Wright & Cullen, 2001). The Cronbach’s alpha ranges from .76 to .83. All the attachment measures in this study are used for both mediating variables and moderating variables.

### **3.4 Analytic Strategy**

One of the novel contributions of this dissertation is the focus on the within-individual effect of perceived informal labeling on delinquency. Conceptually, the within-individual analysis focuses on how within-individual variation in the independent variable influences the within-individual variation in the dependent variable over time instead of estimating the effect of the independent variable on the between-individual differences in the dependent variable. Thus, statistical models to estimate within-individual effects are often designed to examine how the different levels of informal labeling that an individual might experience across different time point leads to change in the level of delinquency of the individual at the corresponding time point. This type of analysis, therefore, necessarily involves the use of strategies to eliminate between-individual differences (analogous to contextual effects in multilevel analyses) that often predict a large part of the variation in the dependent variable.

Researchers have often adopted fixed effect models for within-individual analysis. Fixed effect models relate changes across waves on the predictors to changes across waves on the outcomes. By doing so, fixed effect models eliminate the influence of measured or unmeasured time-stable individual characteristics, which cannot explain the change in the outcome. That is, fixed effect models eliminate threats of spuriousness due to unmeasured between-individual differences by using each individual as his or her own control (Allison, 2005).

Fixed effect models, however, have some disadvantages. First, because the estimates in fixed effect models are based only on within-individual variation in the independent variable, the standard error can be relatively larger than random effect models that use both within-individual

variation and between-individual variation to estimate the coefficients (Allison, 2005). This is more problematic when there is little variability within individuals over time because in this case, the standard error can be too large to reject the null hypothesis, that is, to produce statistically significant effects. In other words, the estimator becomes more inefficient. Secondly, although the fixed effect model is assumed to be less biased than the random effect model because all unmeasured time-stable variables are automatically controlled, the estimated coefficient by the fixed effect model is not perfectly unbiased because there are possible time-varying variables that are not included in the model (Na et al., 2015). Lastly, the fixed effect model cannot estimate the effect of any time-stable variables because the fixed effect model eliminates the effect of possible time-stable variables altogether. That said, it is impossible to estimate the coefficient of a specific time-stable independent variable.

To overcome these limitations, this study uses a modification of the random effect models. Instead of eliminating time-stable variables altogether, this model allows to include various time-stable variables in the model and to estimate the independent effect of each time-stable variable. Specifically, this model is expressed as follows:

$$y_{ti} = \beta_0 + \beta_1 x_{ti} + \beta_2 \bar{x}_i + \alpha_i + \varepsilon_{ti}$$

This model includes the observed value of each individual at each wave ( $x_{ti}$ ) as well as the mean of each individual value across waves ( $\bar{x}_i$ ). This type of modification resolves some of the limitations in the fixed effect models.

First, by including both  $x_{ti}$  (level 1 variables) and  $\bar{x}_i$  (level 2 variables) in the same model, the within-individual effects and the between-individual effects can be isolated from each other by acting as control variables for each other. Thus,  $\beta_1$  represents within-individual effects from wave to wave because between-individual differences are controlled. Also,  $\beta_2$  represents between-individual effects (precisely speaking, contextual effect) from individual to individual because within-individual effects from wave to wave are controlled. In this regard, this model makes it possible to compare the within-individual effects to between-individual effects.

Second, while fixed effect models use degrees of freedom as many as the number of clusters (the number of individuals in this type of longitudinal analysis), which can have a big impact on standard errors — especially in a panel design that has many clusters, random effects models do not directly model all of the between-cluster variance. In other words, because fixed effects models estimate a larger number of parameters, the number of pieces of information that

are free to vary decreases in the fixed effects models, and the standard errors of the model increase accordingly. Thus, random effect estimates are more efficient.

Third, researchers can estimate the effects of time-stable variables (i.e. level 2 variables) and interaction effects between time-varying variables and time-stable variables by including cross-level interactions in the model. Thus, more dynamic interactions between time-varying variables and time-stable variables can be analyzed with this model. Although fixed effect models also allow estimating interaction effects between time-varying variables and time-stable variables by including interaction terms that vary over time, it is impossible to estimate the *main effects* of time-stable variables in a fixed effects model. That is, this makes it impossible to estimate the value of the time-stable variable when the value of the time-varying variable in the interaction term is 0 or mean value (if grand-mean centered). This also makes it less straightforward to show the interaction graphically.

This dissertation, therefore, uses this statistical model with HLM 7.0 to estimate direct and indirect within-individual effects of perceived informal labeling, as well as interaction effects of perceived informal labeling and moderating variables. Specifically, the basic equation of this model contains both the within-individual effect of time-varying variables and the between-individual effect of the mean of those time-varying variables across the wave and some of the time-invariant variables. The time-varying variables included as level-1 variables are perceived informal labeling, deviant self-concept, delinquent peer association (i.e. the number of delinquent peers), attachment to parents, attachment to the teacher, and attachment to very close friends. Also, the mean of each of these time-varying variables over waves ( $\bar{x}_i$ ) are included in the model as level-2 variables at the same time. Also, time-invariant variables such as sex and prior delinquency are also included in the model as level-2 variables. One step further, this study includes the city mean value of each of level-2 variables in the third level to isolate between-individual effects. The logic of including level-3 variables is the same with the logic of including level-2 variables. That is, by including city-mean values as level-3 variables, the contextual effects of each city are controlled and between-individual effects are isolated. By doing so, this study can compare within-individual effects to between-individual effects that are rigorously estimated.

As discussed above, the dependent variable (i.e. delinquency) had been measured by asking the number of different types of delinquent behaviors that the respondent committed

during the past year. Thus, to establish temporal order, the model is designed that the dependent variable that had been measured one year later corresponds to the independent variable and some of the mediating variables that had been measured one year earlier. Mediating effects of deviant self-concept, the number of delinquent peers, and attachment to parents, teacher, and peers are estimated according to the way that Baron and Kenny (1986) suggested. First, the effect of the independent variable (i.e. perceived informal labeling) on each of mediating variables is estimated. Second, the effect of the independent variable (i.e. perceived informal labeling) on the dependent variable (i.e. delinquency) is estimated. Third, each of these mediating variables is included in sequence in the models. Some of the interaction effects involve the interaction effect between perceived informal labeling and time-varying variables (e.g. deviant self-concept), and others involve the interaction effect between perceived informal labeling and time-invariant variables (e.g. sex). For the interaction effects between perceived informal labeling and each of the time-varying variables, the interaction terms for each variable created in STATA are included in the model as level-1 variables. The interaction effects between perceived informal labeling and each of the time-invariant variables are estimated by the cross-level interaction process between perceived informal labeling that is located at level-1 and each of time-invariant variables located at level-2. Lastly, because the dependent variable, the number of delinquent behavior, is a count variable and over-dispersed (i.e. the variance is larger than the mean in every wave), the results are estimated based on negative binomial distribution.

### **3.5 Conclusion**

In conclusion, this study tests within-individual effects of adolescent perceived informal labeling on delinquency using 6 waves of KYPS data collected from 2003 to 2008. Also, this study examines whether the within-individual effect of perceived informal labeling on delinquency is mediated by deviant self-concept, delinquent peer association, and attachment to others. Lastly, this study examines whether background factors (i.e. sex, prior delinquency), deviant self-concept as a type of human agency, attachment to others as social control factors, and delinquent peer association as a social learning factor moderate the within-individual effect of perceived informal labeling on delinquency. Chapter 4. addresses the direct and the indirect effects and Chapter 5. addresses the moderating effects.

## CHAPTER 4

# MEDIATION PROCESSES INVOLVED IN THE EFFECT OF PERCEIVED INFORMAL LABELING ON DELINQUENCY

### 4.1 Introduction

Labeling theory proposes that any formal- or informal sanctions increase one's criminality. This distinctive proposition from traditional deterrence perspective inevitably has evoked a question regarding mediating mechanisms involved in the relationship between labeling and delinquency. That is, clarifying how labeling leads to increased delinquency has been a focal issue in labeling theory literature (see Paternoster & Iovanni, 1989).

Particularly, three mediating processes have drawn researchers' attention: deviant self-concept (Jensen, 1972; Matsueda, 1992), reduced prosocial opportunities through weakened prosocial relationships (Bernburg & Krohn, 2003; Sampson & Laub, 1997), and embeddedness in delinquent peer association (Bernburg et al., 2006; Johnson et al., 2004; Restivo & Lanier, 2015). That is, labeling theory sees that these mediating factors independently or collectively lead a labeled individual to be involved in increased crime and delinquency.

There are, however, some voids in labeling theory research involving mediating processes. First, research has not paid enough attention to the effect of informal labeling. Unlike formal labeling that is applied by formal social control agencies, informal labeling is imposed by surrounding people such as parents, teachers, and friends. Given this difference in the source of labeling, the mediating mechanism involved in the relationship between informal labeling and delinquency might also be different from that of formal labeling. Second, existing studies ignored the fact that original labeling theory proposed developmental changes in delinquency of a labeled individual over time. Most studies have been conducted based on regression-based analyses that compared the level of delinquency of the people who were labeled to those who were not labeled. This method has a clear limitation to capture the within-individual effect of labeling over time because traditional regression-based methods cannot control for all the between-individual differences even in longitudinal designs.

To fill these voids, I test the within-individual effect of informal labeling on delinquency and mediating processes potentially involved in this relationship. Based on prior research

regarding formal- and informal labeling, mediating variables tested are deviant self-concept, attachment to parents, teachers, and very close friends, and delinquent peer association. In addition, by using a statistical method that makes it possible to compare within-individual effects and between-individual effects, this study aims to provide a more rigorous empirical test of labeling theory that is “truly developmental in nature (Sampson & Laub, 1997, p. 138).”

## **4.2 Literature Review**

### **4.2.1 The Characteristics of Informal Labeling**

Despite the fact that early labeling theorists equally emphasized the importance of formal labeling and informal labeling (Erikson, 1962; Kitsuse, 1962; Lemert, 1972; Schur, 1971; Tannenbaum, 1938), research on labeling theory has been disproportionately focused on formal labeling. This predominance of formal labeling stems from several facts. First, labeling theory has a particularly unique perspective on formal sanctions.. Unlike most of the other major criminological theories that pay little attention to the role of the criminal justice system (e.g. control theory, strain theory, social learning theory), the formal sanction is one of the central concerns of labeling theory. Moreover, labeling theory regards formal sanctions as an independent cause of crime, unlike deterrence perspective that assumes formal sanctions as a deterrent to crime. This distinctive perspective of labeling theory on the role of formal sanctions may have led researchers to focus more on the theory’s proposition related to formal labeling than informal labeling.

Second, there has been an emphasis on the power and authority of formal labeling (Akers & Sellers, 2012, p. 139). In his discussion of the labeling process, Lemert (1951) described the community’s formal reaction as a turning point that brings about the individual’s delinquent self-concept. Becker (1963, p. 31) also noted that “the experience of being caught” is a “crucial step” that leads the individual to “stable pattern of deviant behavior.” Third, Becker’s (1963) discussion on the rule-making process evoked interests in the role of the formal agents. Becker (1963) argued that the criminalization of marijuana use by the Federal Bureau of Narcotics reflected the interest of Protestants who were generally middle and upper classes in American society. This illustration increased interests in the role of formal labeling as a reflection of social power.

Although there have been uneven emphases on formal labeling in the labeling theory research, informal labeling has its own significance that cannot be ignored. First, informal labeling may occur more frequently than formal labeling through continuous interrelationships with surrounding people. Given the proposition of symbolic interactionism theory that one's behavior is determined through continuous interactive processes between other people, me, and I, informal labeling may be more suitable to explain the within-individual change in delinquent behaviors than formal labeling.

Second, unlike formal labeling, the concept of informal labeling itself involves publicity, which is an essential factor that causes alteration of self-concept. Paternoster and Iovanni (1989) emphasized the publicity of labeling in causing further deviance. They argued that if imposition of formal labeling is not opened to others, the secondary deviance is unlikely (Paternoster & Iovanni, 1989, p. 376), noting that

*Not all instances of labeling are disclosed fully to others in actors' social environment: those apprehended or arrested by the police may be released without further action; some hearings (juvenile) may be closed to the general public; and some offenders may be able to hide their label (drunk driver, shoplifter) from all but intimate others. Consequently, these instances of labeling would be unlikely to result in exclusion from the normal routines of life.*

Based on this logic, Paternoster and Iovanni (1989) insisted that if the label is kept private, the individual would maintain their self-identity, and would not be involved in secondary deviance. In this regard, informal labeling may have more direct effects on secondary deviance than formal labeling that may affect secondary deviance indirectly through disclosure to others.

Third, informal labeling might have more or less serious effect on later delinquency than formal labeling because the source of labeling is different between informal labeling and formal labeling. On one hand, informal labeling might have a particularly consequential effect on adolescents who rely a majority part of their socialization on the relationship with parents, teachers, and close friends. According to the symbolic interactionist perspective, an individual's self-identity is formed by the exchange of meanings through face-to-face interaction. Given that parents, teachers, and friends are the closest and the most reliable sources of this interaction in adolescents' lives, informal labeling by these people may have more substantial effects on adolescents' delinquency than formal labeling, particularly when adolescents do not take formal



labeling as serious as informal labeling. For example, Adams et al. (1998, p. 169) argued that informal labeling is more detrimental to Black youths than formal labeling because Black youths tend to regard the “White-dominated criminal justice system” as a less credible source of labeling than their significant others.

On the other hand, it is also possible that the effect of informal labeling is less consequential than the effect of formal labeling. As Lemert (1951) described, informal labeling that occurs before formal labeling may not lead to the alteration of self-concept when adolescents do not take appraisals of parents, teachers, and friends as serious as formal labeling. Instead, adolescents may reject their appraisals, and think that their appraisals result from misunderstanding. However, if formal labeling, which is an official form of appraisals that they are deviant, is applied, they may perceive that their identity is actually deviant and alter their self-concept accordingly. In this case, informal labeling will be less consequential for later delinquency than formal labeling.

In sum, informal labeling is characterized as the following compared to formal labeling. First, informal labeling occurs more frequently than formal labeling. Second, informal labeling may have a more direct effect on later delinquency than formal labeling. Third, the effect of informal labeling on delinquency or deviant self-concept can be either stronger or weaker than formal labeling because of the difference in the source of labeling.

#### **4.2.2 The Effect of Informal Labeling on Delinquency and Mediating Processes**

Based on its own implication of informal labeling, a line of research has paid attention to the effect of informal labeling (Adams et al., 1998; Bartusch & Matsueda, 1996; Braithwaite, 1989; Heimer & Matsueda, 1994; Matsueda, 1992; Pate & Hamilton, 1992; Raymond Paternoster & Iovanni, 1989; Triplett & Jarjoura, 1994). Concerning the direct effect of informal labeling on secondary deviance, empirical studies (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Pate & Hamilton, 1992; Triplett & Jarjoura, 1994) have consistently reported significant positive effects of informal labeling on later delinquency. Although more studies need to be done, this consistent support for the theory is somewhat surprising given that research on the effect of formal labeling has produced mixed results.

One of the unique features in the informal labeling research is that many studies have paid attention to the effect of perceived properties of informal labeling as well as objective informal labeling. Felson (1985) pointed out the importance of perceived properties of informal labeling by stating that “persons respond to their perceptions of what significant others think, not the actual opinions of these others (Felson, 1985, p. 71)”. This distinction between actual informal labeling and perceived informal labeling might be derived from the idea that there might be some degree of inaccuracy in perceiving others’ actual labeling, and what actually leads to the negative outcome is the perception rather than actual informal labeling.

There are two notable studies that tested the effect of perceived informal labeling. First, Matsueda (1992) examined how parents’ actual appraisals have effects on delinquency through *reflected-appraisals of self*. He first distinguished the concept of *reflected appraisals of self* from the concept of *self-appraisal* and tested the mediating role of *reflected appraisals of self* between the relationship between actual parental appraisals and delinquency. In this study, Matsueda (1992) found that each dimension of parental actual appraisals (i.e. being sociable, the likelihood of success, being distressed, and rule-violator) had significant effects on the corresponding reflected appraisals of self. In addition, reflected appraisals as a rule violator had the largest effect on delinquent behavior, followed by being sociable. Lastly, the effect of parental actual appraisals of a youth as a rule violator on delinquency was partially mediated by reflected appraisals as a rule violator.

Similarly, Triplett & Jarjoura (1994, p. 244) specified the type of informal labeling. They made a distinction between objective informal labeling (actual reaction of the social audience) and subjective informal labeling (the actor’s interpretation of the reaction). The concept, subjective informal labeling is basically the same concept as reflected appraisals suggested by Matsueda (1992). Based on this conceptualization, they examined whether subjective informal labeling has direct and indirect effects on subsequent delinquency after controlling for objective informal labeling using the first four waves of the National Youth Survey data. The result showed that Time 1 subjective informal labeling had a direct- and indirect effect on subsequent delinquency measured at Time 2 and Time 4 through its effect on delinquent peer association and absence of school attachment although there was some variation according to the measure of the dependent variable.

Another key issue in informal labeling research is the mediating process involved in the effect of informal labeling on delinquency. Research has examined several possible mediators including delinquent subculture, weakened attachment to others, and deviant self-concept. First, there has been a recognition that any type of labeling could lead the labeled individual to delinquent subculture from the early stage of the labeling theory (Becker, 1963; Schur, 1971; Tannenbaum, 1938). It is because while those who are labeled deviant may experience blockage from maintaining relationships with prosocial people, delinquent peers can provide labeled individuals with a type of “social shelter” (Bernburg et al., 2006, p. 68). A series of social psychological research conducted by Kaplan and colleagues (Kaplan, 1986, 1995; Kaplan & Johnson, 2001; Kaplan, Martin, & Robbins, 1982) also provides a similar theoretical logic. According to this research, valued others’ negative appraisals or behaviors to an individual cause derogative self-attitudes of the individual, and ultimately lead the individual to seek deviant peers in an effort to restore the positive self-attitudes because the association with delinquent peers make them feel integrated or supported. In turn, these individuals learn definitions favorable to crimes through differential association with delinquent peers as described in social learning theory or take other delinquent peers’ role according to symbolic interactionism theory, and in turn, come to commit crime and delinquency.

Several studies tested the mediating process of delinquent peer association between formal labeling and delinquency (Bernburg et al., 2006; Johnson et al., 2004; Restivo & Lanier, 2015), but the results were inconsistent. While Bernburg et al. (2006) found that gang membership experience significantly mediated the relationship between juvenile justice intervention during adolescence and subsequent delinquency (serious delinquency and substance use), Johnson et al. (2004) could not find a significant effect of deviant peer association on delinquency using longitudinal data. Research on informal labeling generally has shown better support for the hypothesized mediating effect of delinquent subculture. As mentioned above, Triplett and Jarjoura (1997) identified that the effect of subjective informal labeling on subsequent delinquency was partially mediated by delinquent peer association. Similarly, Adams and Evans (1996) found that subjective informal labeling predicted delinquency indirectly through delinquent peer association. Heimer and Matsueda (1994) also identified that the effect of actual informal labeling by parents on delinquency was fully mediated by reflected appraisals and delinquent peer association.

Second, some studies (Paternoster & Iovanni, 1989; Sampson & Laub, 1997; Stewart et al., 2002; Triplett & Jarjoura, 1994; L. Zhang & Messner, 1994) have focused on weakened prosocial relationships as a possible mediator that accounts for the effect of labeling on delinquent behaviors. Although the measure of weakened prosocial relationships varies from study to study, the empirical results generally show that formal or informal labeling weakens relationships with parents, neighbors, friends, or school who provide social ties and life opportunities, and in turn, increases involvement in delinquency. For example, Stewart et al. (2002) found that legal sanctions led to poor parenting practices, measured with poor supervision, harsh discipline, and harsh parenting. Triplett and Jarjoura (1994) tested whether perceived parental labeling had an effect on later delinquency through weakened parental attachment and weakened school attachment. The results, however, were mixed. While parental labeling significantly reduced school attachment, the same significant effect was not observed for parental attachment. Lastly, Zhang and Messner (1994) tested whether the effect of labeling on attachment to significant others varied by the types of significant others using a Chinese youths sample. The results showed that the severity of formal labeling was positively associated with estrangement from friends and neighbors, but the relationship between formal labeling and estrangement from parents and relatives was not significant. Based on these results, they concluded that family ties may resist labeling imposed by outside sources, especially in the Chinese context where family ties are emphasized.

Third, deviant self-concept should be considered as a mediator between labeling and delinquency. Self-concept has also been operationalized as *self-appraisals* by some researchers (Felson, 1985; Heimer & Matsueda, 1994; Kinch, 1963; Matsueda, 1992). Given that labeling theory is rooted in symbolic interactionism perspective that emphasizes the formation of self-identity through the exchange of the meaning, the most important mediating variable in labeling — delinquency link would be something that captures the internalization process of labeling. Nevertheless, there has not been enough empirical attention to this mediating process in informal labeling research. Only a few studies (Heimer & Matsueda, 1994; Matsueda, 1992) tested the perceptual properties of informal labeling (i.e. subjective informal labeling or perceived informal labeling) as a mediator between objective informal labeling and delinquency. However, there is no noticeable study that considers the subject's *self-appraisals* as a mediating variable between objective- or subjective- informal labeling and delinquency.

Subjective informal labeling (or perceived informal labeling) is a clearly different concept from the *self-appraisals*, that is, self-concept. As Matsueda (1992, p. 1584) notes, “how one perceives the way others see one (subjective informal labeling or reflected appraisals)” is not the same with “how one sees oneself (self-concept or self-appraisal)”. Although Matsueda (1992) indicated this conceptual difference between *reflected appraisals* and *self-appraisals*, he only tested the mediating effect of *reflected appraisals* to explain the effect of others’ actual appraisals (i.e. objective informal labeling) on delinquency. He justified this empirical model by arguing that the concept, *reflected appraisals*, is more suitable than *self-appraisals* to explain subsequent behavior because reflected appraisals comprise a substantial part of the self according to symbolic interactionism framework that emphasizes the interaction with other people (Matsueda, 1992, p. 1586).

The logic of Matsueda (1992), however, tended to underrate the interaction process within the individual. That said, regardless of an individual’s perceived others’ appraisals, whether he or she would behave in accordance with others’ appraisals depends on his or her decision. In other words, perceived appraisals of others can be rejected through the internal process of the individual (Davis, 1961; Paternoster & Iovanni, 1989; Scimecca, 1977). Paternoster and Iovanni (1989, p. 376) clarified this possibility by noting that

*...even if the label is made public and one finds oneself excluded from many of the normal routines of life, the internalization of a deviant identity, though difficult to resist, is not an inevitable consequence. Though this phenomenon is ignored in much criminological writing from the social reaction perspective, it has been noted in the general deviance literature that labeled actors may resist or refuse to concur in others' judgments about their own deviant character.*

That is, if one rejects others’ appraisals, he or she is less likely to behave following the way others appraise. In this regard, the acceptance of others’ appraisals and having a delinquent identity need to be considered as an essential mediator in the link between reflected appraisals and delinquency.

In early symbolic interactionism research (Felson, 1985; Kinch, 1963), there had been a recognition of the conceptual distinction between *reflected appraisals* and *self-appraisals*. For example, Kinch (1963) posited that *reflected appraisals* are caused by actual appraisals and forms *self-appraisals*. Drawing from Kinch’s proposition, Felson (1985) found that the *reflected*

*appraisals* of peers are an important source of *self-appraisals* of physical attractiveness. Based on this extant research on informal labeling, a hypothetical path diagram that explains the process how perceived informal labeling causes subsequent delinquency, therefore, should include deviant self-concept as a mediating variable.

Three key conclusions are drawn from prior research on the effect of informal labeling on delinquency. First, objective informal labeling has a direct and indirect effect on delinquency through its effect on role taking variables that include perceived informal labeling and delinquent peers (Heimer & Matsueda, 1994; Matsueda, 1992). Second, perceived informal labeling has also a direct (Adams et al., 1998; Heimer & Matsueda, 1994; Matsueda, 1992; Triplett & Jarjoura, 1994) and indirect effect (Adams et al., 1998; Triplett & Jarjoura, 1994) on delinquency. Third, delinquent peer association and attachment to others account for the indirect effect of perceived informal labeling (Adams & Evans, 1996; Triplett & Jarjoura, 1994) on delinquency. On top of this prior research, I argue that it is also necessary to examine whether deviant self-concept mediates the effect of perceived informal labeling on delinquency.

#### **4.2.3 Within-individual Effect of Informal Labeling on Delinquency**

The basic proposition of labeling theory is that if a person experiences labeling during a certain period of time, the person is more likely to be involved in delinquency than before. That is, the original theoretical statement of labeling theory is focused more on within-individual effects of labeling on delinquency over time rather than between-individual differences in labeling and delinquency. The theory's focus on within-individual changes can be easily found in the discussion of early labeling theorists including Tannenbaum (1938) and Lemert (1951). For example, Tannenbaum (1938) described a sequential process in which community labeled a normal child into a delinquent. Furthermore, Lemert (1951) coined the term of primary deviance and secondary deviance according to the time sequence. Although other major criminological theories also imply within-individual effects of variables on delinquency in some degree, the focus is often centered more on explaining between-individual differences. For example, social bonding theory (Hirschi, 1969) proposes that people who are more attached to others are less likely to be delinquent than others. That is, this proposition is based on the cross-sectional comparison between individuals. Strain theory (Merton, 1938) also focuses on the comparison between people who have legitimate opportunities to attain their goals and people who lack those

opportunities. In this regard, Sampson and Laub (1997, p. 138) pointed out that labeling theory is “truly developmental in nature.”

Despite this clear focus of labeling theory on within-individual effects, prior research for testing labeling theory has been limited to examining between-individual effects of labeling on delinquency. Even studies (Bernburg & Krohn, 2003; Bernburg et al., 2006; Matsueda, 1992; Restivo & Lanier, 2015) that used longitudinal data are not free from this limitation in capturing within-individual effects of labeling on delinquency. For example, Bernburg and Krohn (2003) tested whether the experience of police intervention or juvenile justice intervention during adolescence predicts serious crime and drug selling in early adulthood using logistic regression after controlling for demographic factors such as race and parental poverty. Although this study provides an insightful information of long-term effects of labeling on delinquency, their analysis is also based on comparing the outcome of people who experienced labeling to people who did not experience the labeling given that all possible between-individual differences were not fully controlled. That is, if one wants to see how labeling influences delinquent outcomes over time, it is necessary to adopt any statistical strategies that can eliminate all possible between-individual differences and isolate the effects of within-individual change in labeling on the within-individual change in delinquency.

One important prerequisite for estimating within-individual effects is that there should be some degree of variation from time to time in the level of main variables. That is, main constructs in the causal chain such as informal labeling, delinquency, and mediating variables should vary over time to observe within-individual effects between these variables. In general, although a certain degree of time-stability may exist, we can also expect meaningful changes in the level of these constructs from time to time. First, the level of actual or perceived informal labeling may change over time according to the type of people with which the individual socializes at different time points. During adolescence, people with which an individual socializes would include parents, teachers, and friends. Among them, teachers and friends at a certain point in time may not necessarily be the same people with whom labeled the adolescent before. That is, the variation in the source of socialization will produce some degree of variation in the level of informal labeling from time to time. Also, if there is some degree of variation in the antecedents of informal labeling such as an adolescent’s attitude or delinquency, people’s appraisals would also change accordingly. This time-to-time variation in the level of informal

labeling, however, may be accompanied by some degree of consistency during adolescence given that the people with whom an adolescent socialize are limited. Especially, if a significant portion of perceived informal labeling is derived from their parents' appraisals, which is an unchanging source of socialization, time-stability in the level of perceived informal labeling may exist.

Second, the level of delinquency, which is hypothesized as an outcome of informal labeling, has also been assumed to change over time by age itself (Hirschi & Gottfredson, 1983) or a variety of social environmental factors including social control (Sampson & Laub, 1993), routine activities (Osgood, Wilson, O'malley, Bachman, & Johnston, 1996), and social learning factors (Sweeten, Piquero, & Steinberg, 2013). For example, Sweeten et al. (2013) found that nearly 69% of the change in crime involvement from age 15 to 25 was explained by the change in a variety of social environmental factors including social bonding, social learning, strain, rational choice, and procedural justice. In particular, they found that social learning variables accounted for 47% of this change in crime. In addition, various life-course perspectives (Giordano et al., 2002; Laub & Sampson, 2003; Moffitt, 1993; Paternoster & Bushway, 2009; Sampson & Laub, 1993) also focus on the within-individual change in crime and delinquency based on the assumption that the level of crime and delinquency changes over time.

Lastly, research has also shown that an individual's self-identity, association with delinquent peers, and attachment to others, which are considered as potential mediators between perceived informal labeling and delinquency in this study, can vary across time. According to symbolic interactionism perspective, self-identity is formed by social interaction between people. Given that people who interact with an individual are not the same over time, self-identity, which is an outcome of this interaction can also be assumed to be unstable. Also, empirical research (Harter, 1986; Rosenberg, 1979, 1986) on self-esteem, which is a type of self-identity, shows that self-esteem is not fixed in early stage of one's life but changes from time to time by the influence of "age, performance feedback, educational transitions, the social context, and social structural variables" (Crocker & Major, 1989, p. 611). In addition, recent life-course perspectives that focus on the role of self-identity in the desistance process propose that even strong negative self-identity that is formed for a long-time can change at some point by internal factors (Paternoster & Bushway, 2009) or external factors (Giordano et al., 2002).



When it comes to the number of delinquent peers, research (Akers, 1998; Cloward & Ohlin, 1960; Osgood & Anderson, 2004) has focused on the possibility that social structure may influence the level of delinquent peer association. This area of research points out that those who live in a place that is less likely to control them will be more likely to be associated with delinquent peers. The neighborhood structural factors may not change dramatically from time to time but school structural factors, where Korean adolescents spend a majority of time, can change as teachers and classmates change every year. Thus, an adolescent's peer association may also be fluctuated over time according to the change in this school structural factors. In addition, given that the level of informal labeling can change over time, delinquent peer association, which is one of the likely outcomes of informal labeling also has a potential to change accordingly.

Meanwhile, Fraley (2002) suggests two opposing views regarding the stability of attachment to others. According to the revisionist perspective, one's level of attachment to others is changed by later experiences. On the other hand, prototype perspective views that attachment is stable across time because early experiences operate as a prototype for later experiences. Prototype perspective agrees with some degree of change by environmental factors during the short-term period but focuses more on long-term stability over the lifespan. Empirical studies (Fraley, 2002; Higgins, Jennings, & Mahoney, 2010) for the stability of attachment have also produced mixed results. For example, Higgins et al. (2010) found that the level of attachment to parents was stable for some groups but not for other groups. Fraley (2002) also found a moderate stability in attachment until early adulthood.

In conclusion, prior research and theoretical perspectives show that some degree of within-individual fluctuations exists in the main constructs involved in the effects of informal labeling and delinquency although some variables (e.g. attachment to others) are somewhat stable relative to other variables. This possible within-individual change in these variables justifies the examination of within-individual effects of perceived informal labeling on delinquency including mediating processes involved in this relationship.

## **4.3 The Present Study**

### **4.3.1 Research Questions**

The goal of this study is to examine the within-individual effect of perceived informal labeling on delinquency with mediating processes. Specifically, this study tests whether perceived informal labeling has a within-individual effect on delinquency over time with mediation processes of five variables: delinquent self-concept, delinquent peer association, attachment to parents, attachment to teachers, and attachment to very close friends. By controlling for individual differences and focuses only on within-individual effects from time to time, the tests will be more consistent with the original theoretical proposition of labeling theory that explains within-individual changes over time. Also, this study focuses on the effects of perceived informal labeling, which are assumed to have more direct effects on mediating variables and delinquency than actual or objective informal labeling.

Thus, I focus on the following research questions in this chapter. First, when considering unique characteristics of informal labeling relative to formal labeling and the developmental nature of the labeling process, does perceived informal labeling have a positive within-individual effect on adolescent delinquency? Second, do deviant self-concept, attachment to parents, attachment to significant others (i.e. parents, teachers, and very close friends), and delinquent peer association respectively mediate the within-individual effect of perceived informal labeling on delinquency?

### **4.3.2 Data**

This study uses 6 waves of second grade middle school student panel group data in Korea Youth Panel Study (KYPS) collected by the Korean National Youth Policy Institute. The survey had started in October 2003 with 3,697 second grade middle school students selected from 12 regions of South Korea that cover all the country except Jeju island through stratified multi-stage cluster sampling methods. The panel had been surveyed every year until December 2008, which is one year after their last year in high school. The first survey was conducted with 3,697 students, and the final number of samples in the first-year survey was 3,449. Thus, the successful surveying rate in the first year was 93.3%.

The panel attrition was minimal. Nearly 82% (2,833) of the initial respondents were retained in the final sixth wave. I included 2,646 respondents in the final analyses through listwise deletion of item-missing data<sup>3</sup>. Respondents who participated at least one wave were included in the analyses since the modeling strategy of this study can accommodate such “unbalanced” data. The final sample size is 14,491 observations on 2,646 respondents in 100 cities.

### 4.3.3. Measures

**4.3.3.1 Dependent variable: Delinquency.** The dependent variable, delinquency, is measured with a combined scale of seven types of serious delinquent behaviors: severely beating other people, fight in groups, forcefully taking others’ things or money, stealing others’ things or money, severely teasing or bantering other people, threatening other people, and collectively bullying. For each type of delinquent behavior, those who had engaged in that behavior during the past one year have been coded 1, and those who had not have been coded 0. The Cronbach’s alpha ranges from .60 to .71.

**4.3.3.2 Focal independent variable: Perceived informal labeling.** Respondents’ perceived informal labeling is measured with a combined scale of two items regarding the perceived appraisals by the generalized other. Respondents are asked if they agree or disagree with the following two statements: “People around me regard me as a problem youth.” and “People around me regard me as a juvenile delinquent.” These items are suited for measuring appraisals of the generalized other regardless of the source of informal labeling and coincide with Matsueda (1992)’s measure of *reflected appraisals as a rule violator from the standpoint of parents*: “get into trouble,” and “breaks the rules”. The correlation between the two items ranges from .88 to .95. Each item has 5 response categories ranging from (1) strongly disagree to (5) strongly agree.

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<sup>3</sup> Although this study did not test the missing data type, missing values were assumed to be Missing Completely at Random (MCAR).

**4.3.3.3 Deviant self-concept.** A combined scale of two items is used to measure deviant self-concept: “I regard myself as a problem youth.” “I regard myself as a juvenile delinquent.” Respondents are asked if they agree or disagree with these statements. Each item has five response categories ranging from (1) strongly disagree to (5) strongly agree. The Cronbach’s alpha of this measure in 6 waves ranges from .78 to .85.

**4.3.3.4 Delinquent peer association.** Delinquent peer association is operationalized as the number of very close friends who had committed four types of delinquent behaviors in the past one year. Those behaviors are drinking alcohol, smoking cigarettes, severely beating other people, and taking something away from others using force. The number of very close friends who committed each type of behavior is limited to 20. This measure is consistent with the traditional measure of peer delinquency used in prior studies (Elliott et al., 1985; Meldrum et al., 2009). The Cronbach’s alpha ranges from .54 to .80.

**4.3.3.5 Attachment to parents.** I combined six items to measure parental attachment: “My parents and I try to spend much time together”, “My parents always treat me with love and affection”, “My parents and I understand each other well”, “My parents and I candidly talk about everything”, “I frequently talk about my thoughts and what I experience away from home with my parents”, and “My parents and I have frequent conversations”. Each item also has 5 response categories ranging from (1) strongly disagree to (5) strongly agree. Thus, higher scores denote higher parental attachment. These items are selected to capture “emotional bonds” with parents as proposed by Hirschi’s (1969) social bonding theory (Wright & Cullen, 2001, p. 684). The Cronbach’s alpha of this measure ranges from .86 to .90.

**4.3.3.6 Attachment to teachers.** Attachment to teachers are measured with a combined scale of three items: “I can talk about all my troubles and worries to my teacher without reservation”, “My teacher treats me with love and affection”, and “I hope to become a person just like my teacher”. Before combining those items, I dropped every case who was not a student in at least wave. The response categories for each item are also 5, ranging from (1) strongly disagree to (5) strongly agree. The measure of attachment to teachers is also designed to capture

emotional bonds with teachers based on social bonding theory (Hirschi, 1969; Liska & Reed, 1985). The Cronbach's alpha ranges from .70 to .80.

**4.3.3.7 Attachment to very close friends.** The questionnaire explains the meaning of “very close friends” as “any friends of all ages that you usually get along.” With this operational definition, attachment to very close friends is measured with a combined measure of four items including “I hope to maintain the close relationships with them for a long time”, “I am happy whenever I get together with them”, “I try to have the same thoughts or feelings with them”, and “We can frankly talk about our troubles and worries”. Each item has 5 response categories ranging from (1) strongly disagree to (5) strongly agree. Like other attachment measures, attachment to very close friends is also based on the discussion of social bonding theory that emphasizes “emotional bonds” between people (Hirschi, 1969; Liska & Reed, 1985; Wright & Cullen, 2001). The Cronbach's alpha ranges from .76 to .83.

**4.3.3.8 Female.** Sex is included in the model as an individual-level control variable. Male is coded 0, and female is coded 1.

**4.3.3.9 Prior delinquency.** According to the analytic design that estimates the effect of the independent variable measured at wave t-1 on the dependent variable measured at t, delinquency measure at wave 1 is not used to estimate within-individual effects. Thus, I included the wave 1 delinquency measure as an individual-level prior delinquency. The Cronbach's alpha of prior delinquency was .65.

#### **4.3.4 Analytic Strategies**

Before conducting the main analysis, I first present the distribution of within-individual change scores of variables to know the degree of stability and change of each variable from wave to wave. This type of analysis is useful to provide a general view of variables' within-individual variations from time to time before estimating within-individual effects (Hay, Meldrum, Forrest, & Ciaravolo, 2010). Within-individual change scores are calculated by subtracting individual mean value from the observed value in each wave.

Second, I estimate three-level random effects negative binomial regression models using HLM 7.0. The level-1 waves are nested within individuals, and the level-2 individuals are nested within the level-3 cities. Before that, unconditional models are estimated to identify whether multi-level modeling is necessary. Also, negative binomial regression is used because the outcome (i.e. delinquency) is a count variable, which is over-dispersed (i.e. variance > mean).

To isolate the within-individual effects from between-individual effects, individual mean values of level 1 variables are included as level 2 control variables. This type of analysis makes it possible to compare the within-individual effects to between-individual effects. In estimating between-individual effects, level 2 control variables (sex and prior delinquency) are included in the model. Also, city mean values of level 2 variables are included as level 3 control variables to isolate between-individual effects from between-city effects. Lastly, to control for the effect of age itself on delinquency (see Hirschi & Gottfredson, 1983), the wave is included in level 1 equation.

To establish temporal order, the model is designed that the delinquency variable that had been measured one year later matches with perceived informal labeling that had been measured one year earlier. Although Cole and Maxwell (2003) pointed out that lagged delinquency should be controlled in estimating this type of the lagged effect in cross-lagged SEM models, it is not recommended to control for lagged delinquency in random effects multilevel models because it violates the assumption that unmeasured time-stable variables are uncorrelated with any of time-variant variables included in the equation. If the lagged delinquency is included in the model, unmeasured time-stable variables will be correlated with the lagged delinquency because unmeasured time-stable variables predict delinquency.

In terms of the mediation test, Baron and Kenny (1986) suggested a typical way. First, the effect of the independent variable on the mediating variable is estimated<sup>4</sup>. In this first step, if the mediating variable is a continuous variable (i.e. deviant self-concept, attachment to others), the effect is estimated based on the normal distribution of that mediating variable. Also, if the mediating variable is a count variable and over-dispersed (i.e. delinquent peer association), the effect is estimated based on negative binomial distribution. Second, the effect of the independent

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<sup>4</sup> Although some researchers (Rucker, Preacher, Tormala, & Petty, 2011) point out that this step is unnecessary in the mediation test, I included this step to see the amount of reduction of total effects when mediating variables are included in the model.

variable on the dependent variable is estimated. Third, the effect of the mediating variable on the dependent variable is estimated after controlling for the independent variable.

For rigorous mediation tests, however, there should be a temporal order between the independent variable, the mediating variable, and the dependent variable. That is, one should use at least three waves, in which the independent variable (X) measured at t-2, the mediating variable (Z) measured at t-1, and the dependent variable (Y) measured at t. In the pretest, however, there was no significant within-individual total effect of perceived informal labeling (i.e. X) measured at wave t-2 on delinquency (i.e. Y) measured at wave t. Given the within-individual fluctuation in the level of the perceived informal labeling from time to time, this non-significant effect of X (t-2) on Y (t) might be caused by the interfering effect of the perceived informal labeling at t-1.

Thus, the mediation analyses at the within-individual level of the current study are based on the “half-longitudinal design” (Cole & Maxwell, 2003, p. 562), in which either X and M or M and Y are measured at the same time point. Specifically, for testing the mediating effect of delinquent peer association, perceived informal labeling measured at t-1, delinquent peer association measured at t, and delinquency measured at t is used because both delinquent peer association and delinquency are measured based on the experience during past 1 year. For the other mediating effects, I use perceived informal labeling measured at t-1, mediating variables measured at t-1, and delinquency measured at t. The drawback of the half longitudinal design is that there is no temporal order between X and Z or between Z and Y (Cole & Maxwell, 2003). Thus, I conduct supplementary analyses, in which lagged effects are estimated if half-mediations are observed for any mediating variables. When it comes to the mediation analyses at the between-individual level, I also follow the way suggested by Baron and Kenny (1986). The results, however, should be interpreted with the caution that there is no temporal order between variables at the between-individual level.

## **4.4 Results**

### **4.4.1 Descriptive Statistics**

Table 1. shows the descriptive statistics of variables. The sample size of lagged level-1 variables reduces to 11,845 because the last wave is not used for lagged level-1 variables. The

mean of delinquency was close to 0 (0.20) because the values of delinquency for most cases were 0. In level-2, all the variables except sex and prior delinquency are the individual mean over waves. In level-3, all of the variables are the city mean of the level-2 variables.

**Table 1.** Descriptive statistics

Variable	N	Mean	SD	Minimum	Maximum
<i>Level-1</i>					
Wave	14491	3.40	1.70	1.00	6.00
Delinquency	14491	0.20	0.67	0.00	7.00
Perceived informal labeling	14491	3.29	1.51	2.00	10.00
Deviant self-concept	14491	3.61	1.48	2.00	10.00
Peer delinquency	14491	3.88	7.25	0.00	80.00
Attachment to parents	14491	20.72	4.44	6.00	30.00
Attachment to teachers	14491	7.80	2.51	3.00	15.00
Attachment to friends	14491	16.86	2.52	4.00	20.00
Perceived informal labeling (lagged)	11845	3.33	1.52	2.00	10.00
Deviant self-concept (lagged)	11845	3.65	1.50	2.00	10.00
Peer delinquency (lagged)	11845	3.34	7.31	0.00	80.00
Attachment to parents (lagged)	11845	20.64	4.46	6.00	30.00
Attachment to teachers (lagged)	11845	7.77	2.52	3.00	15.00
Attachment to friends (lagged)	11845	16.75	2.56	4.00	20.00
<i>Level-2</i>					
Female	2646	0.50	0.50	0.00	1.00
Prior delinquency	2646	0.57	1.06	0.00	7.00
Perceived informal labeling(lagged)	2646	3.35	1.12	2.00	10.00
Deviant self-concept(lagged)	2646	3.68	1.10	2.00	10.00
Peer delinquency	2646	3.93	4.83	0.00	45.00
Attachment to parents(lagged)	2646	20.6	3.61	6.00	30.00
Attachment to teachers(lagged)	2646	7.76	1.68	3.00	15.00
Attachment to friends(lagged)	2646	16.72	1.84	5.67	20.00
<i>Level-3</i>					
Female	100	0.49	0.50	0.00	1.00
Prior delinquency	100	0.50	0.90	0.00	4.00
Perceived informal labeling(lagged)	100	3.33	0.24	2.78	3.96



**Table 1 – Continued**

Variable	N	Mean	SD	Minimum	Maximum
Deviant self-concept(lagged)	100	3.66	0.24	2.95	4.27
Peer delinquency	100	3.41	1.41	1.04	8.58
Attachment to parents(lagged)	100	20.62	0.94	18.23	22.45
Attachment to teachers(lagged)	100	7.77	0.42	6.37	8.64
Attachment to friends(lagged)	100	16.86	0.48	15.37	17.90

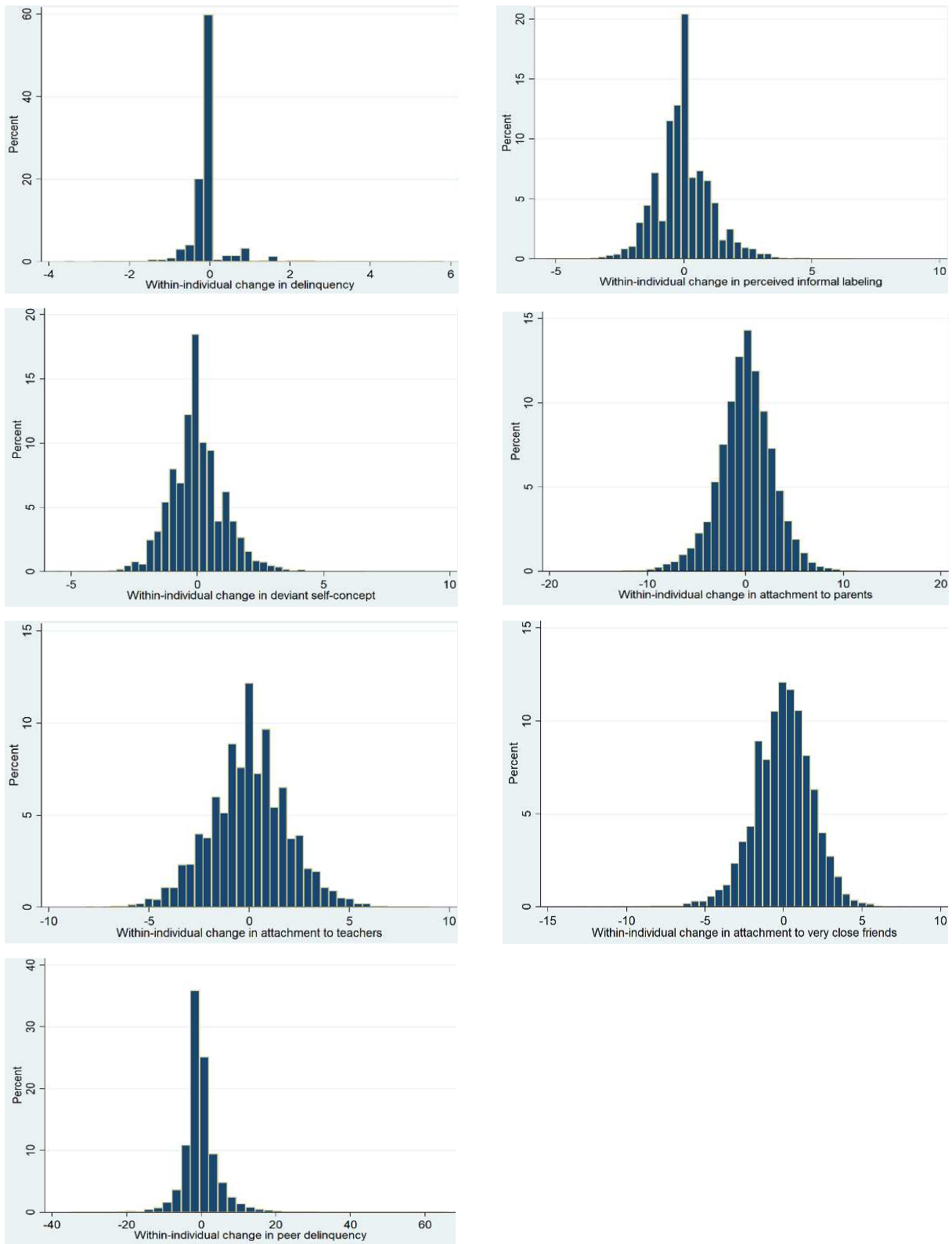
*Note.* Level-2 variables are the individual mean across waves, and level-3 variables are the city mean across individuals.

#### 4.4.2 Distribution of Variables

Before estimating within-individual effects, looking at how the distribution of each variable’s within-individual change is occurring would be helpful to understand variables. Figure 1. represents the distribution of within-individual change in each variable. First of all, the within-individual change in delinquency is minimal. Specifically, the middle three bars represent roughly 85% of the cases, implying that nearly 80% of cases are distributed close to the individual-mean of delinquency. Also, approximately 40% of cases are clustered near the individual mean of perceived informal labeling. For deviant self-concept, roughly 40% of cases are represented by the middle three bars, implying that 60% of cases are marked by varying levels of within-individual change. For attachment to others, the highest percentage of cases in the middle three bars was observed in attachment to parents (39%), followed by attachment to very close friends (34%), and attachment to teachers (26%). This means that attachment to parents is relatively stable than attachment to teachers and attachment to very close friends. This relative high stability in attachment to parents is understandable given that teachers and friends always change, unlike parents. In terms of peer delinquency, nearly 69% are represented by the middle three bars, implying that remaining 31% of cases substantially vary.

#### 4.4.3 Bivariate Correlations

**Table 2.** presents bivariate correlations between level-1 variables. All the variables except attachment to friends were significantly correlated with delinquency. The bivariate correlation between perceived informal labeling and deviant self-concept was high (0.78). The Variance Inflation Factor (VIF), however, indicated that collinearity was not problematic (Perceived informal labeling (lagged): 2.58; Deviant self-concept (lagged): 2.54).



**Figure 1.** Within-individual change in each variable from wave to wave

**Table 3.** shows the bivariate correlation between level-2 variables. Except for Sex and Prior delinquency, all variables are the individual-mean across waves. As the bivariate correlation between Deviant self-concept and Perceived informal labeling was high (0.86) but VIF values presented no problematic collinearity (Perceived informal labeling: 3.79; Deviant self-concept: 3.91).

**Table 4.** presents the bivariate correlation between level-3 variables. All the variables are the city-mean across individuals. In terms of the relationship between perceived informal labeling and deviant self-concept, both the correlation (0.89) and VIF (Perceived informal labeling: 6.37; Deviant self-concept: 5.12) were high but to isolate the level-2 effects, I included both variables in the models.

**Table 2.** Bivariate correlations between level-1 variables

	1	2	3	4	5	6	7	8
Delinquency	1							
Perceived informal labeling(lagged)	0.14***	1						
Deviant self-concept (lagged)	0.13***	0.78***	1					
Peer delinquency	0.28***	0.20***	0.16***	1				
Attachment to parents (lagged)	-0.05***	-0.21***	-0.22***	-0.08***	1			
Attachment to teachers (lagged)	-0.04***	0.02	0.00	-0.02	0.19***	1		
Attachment to friends (lagged)	0.01	-0.05***	-0.05***	0.08***	0.19***	0.09***	1	
Wave	-0.24***	-0.01	-0.03***	0.13***	0.08***	0.06***	0.12***	1

Note. \*= $p < .05$ , \*\*= $p < .01$ , \*\*\*= $p < .001$ ; N=14,491

**Table 3.** Bivariate correlations between level-2 variables

	1	2	3	4	5	6	7	8	9
Delinquency	1								
Perceived informal labeling (lagged)	0.37***	1							
Deviant self-concept (lagged)	0.34***	0.86***	1						
Peer delinquency	0.49***	0.39***	0.35***	1					
Attachment to parents (lagged)	-0.09***	-0.29***	-0.31***	-0.14***	1				
Attachment to teachers (lagged)	-0.05***	0.01	-0.00	-0.03***	0.25***	1			
Attachment to friends (lagged)	0.06***	-0.07***	-0.08***	0.11***	0.25***	0.13***	1		
Sex	-0.1***	-0.16***	-0.12***	-0.19***	0.16***	-0.05***	0.17***	1	
Prior delinquency	0.75***	0.28***	0.26***	0.38***	-0.08***	-0.05***	0.03***	-0.05***	1

Note. \*= $p < .05$ , \*\*= $p < .01$ , \*\*\*= $p < .001$ ; N=2,646

**Table 4.** Bivariate correlations between level-3 variables

	1	2	3	4	5	6	7	8	9
Delinquency	1								
Perceived informal labeling	0.34***	1							
Deviant self-concept	0.22***	0.89***	1						
Peer delinquency	0.59***	0.59***	0.50***	1					
Attachment to parents	-0.18***	-0.37***	-0.36***	-0.28***	1				
Attachment to teachers	0.11***	0.22***	0.11***	0.19***	0.15***	1			
Attachment to friends	-0.02*	-0.24***	-0.25***	-0.11***	0.52***	0.02*	1		
Sex	-0.22***	-0.32***	-0.26***	-0.34***	0.3***	-0.16***	0.29***	1	
Prior delinquency	0.2***	0.06***	0.03**	0.10***	-0.03**	0.02*	-0.01	-0.05***	1

Note. \*= $p < .05$ , \*\*= $p < .01$ , \*\*\*= $p < .001$ , N=100

#### 4.4.4 Three-level Unconditional Models of Delinquency

**Table 5.** shows the results of the three-level unconditional models of delinquency. According to the results, 66 % of the total variation in delinquency can be attributed to differences between individuals, and 4 percent of the total variation in delinquency can be accounted for by differences between cities. Also, the both level-2 and level-3 variance components were statistically significant. These results suggest the necessity of three-level hierarchical models to isolate within-individual effects, between-individual effects, and between-city effects.

**Table 5.** Three-level unconditional negative binomial models of delinquency

<b>Fixed effects</b>	B	SE
Intercept	-2.203	0.047***
<b>Random effects</b>	Variance component	SD
Level1	0.709	0.841
Level2	1.606	1.267***
Level3	0.108	0.329***
Between-individual proportion of variance		
0.66		
Between-city proportion of variance		
0.04		

*Note.* \*= $p < .05$ , \*\*= $p < .01$ , \*\*\*= $p < .001$ , N=14,491 (Level 1), 2,646 (Level 2), 100 (Level 3)

According to Baron and Kenny (1986), the mediation tests were conducted in three steps. First, the effect of the independent variable on the mediating variable was estimated. Second, the effect of the independent variable on the dependent variable was estimated. Third, the effect of the mediating variable on the dependent variable was estimated after controlling for the independent variable. **Table 6.** presents the results of the third step.

#### 4.4.5 Deviant Self-concept as a Mediator

First, the within-individual effect of perceived informal labeling (t-1) on deviant self-concept (t-1) was positive and statistically significant (unstandardized coefficient = 0.69,  $p < 0.001$ ) after controlling for wave. The between-individual effect of perceived informal labeling (t-1) on deviant self-concept (t-1) was positive and statistically significant (unstandardized coefficient = 0.13,  $p < 0.001$ ) after accounting for sex, prior delinquency (wave 1 delinquency), and mean-wave. These results were estimated after accounting for the effect of level-3 city level variables. Thus, both within-individual effect and between-individual effect of the independent variable on the mediating variable were statistically significant in the expected direction. Importantly, however, the direction of within-individual effect of perceived informal labeling measured at t-1 on the deviant self-concept measured at t was the opposite (unstandardized coefficient = -0.10,  $p < 0.001$ ).

The result of the second step is presented in the model1 in **Table 6**. As shown in the table, the within-individual effect of perceived informal labeling (t-1) on delinquency (t) was positive and statistically significant (unstandardized coefficient = 0.025,  $p < 0.05$ ). There was a 3% increase in delinquency for a one-unit increase in perceived informal labeling. Also, the between-individual effect of perceived informal labeling on delinquency was positive and statistically significant (unstandardized coefficient = 0.369,  $p < 0.001$ ). In terms of the between-individual effect, there was a 45% increase in delinquency for a one-unit increase in perceived informal labeling. Thus, both within-individual effect and between-individual effect of perceived informal labeling on delinquency were significantly positive.

Third, model 2 in Table 6. presents the result of the third step. In terms of the within-individual effect, the effect of perceived informal labeling on delinquency was not reduced when deviant self-concept was included in the model. Also, the effect of deviant self-concept on delinquency was not statistically significant. In a supplementary analysis, the effect of deviant self-concept on delinquency without perceived informal labeling in the model was also not significant. Thus, these results show that the within-individual variation in deviant self-concept neither predicts delinquency nor mediates the effect of within-individual effect of perceived informal labeling on delinquency. However, the result shows that between-individual effect of perceived informal labeling on delinquency was reduced from 0.369 to 0.223 (40% reduction), and the between-individual effect of deviant self-concept on delinquency was statistically

significant. This means that between-individual effect of perceived informal labeling on delinquency was mediated by between-individual variation in deviant self-concept.

#### **4.4.6 Attachment to Parents as a Mediator**

First, the within-individual effect of perceived informal labeling (t-1) on attachment to parents (t-1) was negative and statistically significant (unstandardized coefficient = -0.27,  $p < 0.001$ ) after controlling for the wave. Also, the effect of between-individual effect of perceived informal labeling (t-1) on attachment to parents (t-1) was negative and statistically significant (unstandardized coefficient = -0.62,  $p < 0.001$ ) after accounting for sex, prior delinquency (wave 1 delinquency), and mean-wave. These results were estimated after accounting for the effect of level-3 city level variables. Thus, both within-individual effect and between-individual effect of the independent variable on the mediating variable were statistically significant in the expected direction. The result of the second step analysis (model1 in **Table 6.**) shows that both within-individual effect and between-individual effect of perceived informal labeling on delinquency were significantly positive.

Third, model 3 in Table 6. presents the result of the third step. In terms of the within-individual effect, the effect of perceived informal labeling on delinquency was not reduced when attachment to parents was included in the model, and the effect of attachment to parents on delinquency was not significant. Thus, these results show that the within-individual variation in attachment to parents neither predicts delinquency nor mediates the effect of within-individual effect of perceived informal labeling on delinquency. Also, the mediation effect was not observed in the between-individual level.

#### **4.4.7 Attachment to Teachers as a Mediator**

First, the within-individual effect of perceived informal labeling (t-1) on attachment to teachers (t-1) was not statistically significant after controlling for the wave. Also, the effect of between-individual effect of perceived informal labeling (t-1) on attachment to teachers (t-1) was not statistically significant after accounting for sex, prior delinquency (wave 1 delinquency), and mean-wave. These results were estimated after accounting for the effect of level-3 city level variables. Thus, both within-individual effect and between-individual effect of the independent variable on the mediating variable were not statistically significant. Second, both within-

individual effect and between-individual effect of perceived informal labeling on delinquency were significantly positive as presented in **Table 6**.

Third, model 4 in Table 6. presents the result of the third step. In terms of the within-individual effect, the effect of perceived informal labeling on delinquency was not reduced when attachment to teachers was included in the model, and the effect of attachment to teachers on delinquency was not significant. Thus, these results show that the within-individual variation in attachment to teachers neither predicts delinquency nor mediates the effect of within-individual effect of perceived informal labeling on delinquency. Also, the mediation effect was not observed in the between-individual level.

#### **4.4.8 Attachment to Friends as a Mediator**

First, the within-individual effect of perceived informal labeling (t-1) on attachment to friends (t-1) was statistically significant (unstandardized coefficient = -0.016,  $p < 0.05$ ) after controlling for wave. Also, the between-individual effect of perceived informal labeling (t-1) on attachment to friends (t-1) was statistically significant (unstandardized coefficient = 0.371,  $p < 0.001$ ) after accounting for sex, prior delinquency (wave 1 delinquency), and mean-wave but the direction of the effect was the opposite to the within-individual effect. These results were estimated after accounting for the effect of level-3 city level variables. Thus, both within-individual effect and between-individual effect of the independent variable on the mediating variable were statistically significant although the direction was different. Again, both within-individual effect and between-individual effect of perceived informal labeling on delinquency were significantly positive as in **Table 6**.

Third, model 5 in Table 6. presents the result of the third step. In terms of the within-individual effect, the effect of perceived informal labeling on delinquency was not reduced when attachment to friends was included in the model, although the effect of attachment to friends on delinquency was statistically significant (-0.016,  $p < 0.05$ ). Thus, these results show that the within-individual variation in attachment to friends does not mediate the effect of within-individual effect of perceived informal labeling on delinquency. In the between-individual analysis, the mediation effect was also not observed although the effect of level-2 attachment to friends on delinquency was statistically significant (0.111,  $p < 0.001$ ). Interestingly, the direction of the within-individual effect of attachment to friends on delinquency was different from that of



the between-individual effect of attachment to friends on delinquency. This means that although the within-individual attachment to friends predicts reduced delinquency in one year, the average between-individual variation in attachment to friends over six years predicts a higher level of delinquency.

#### 4.4.9 Delinquent Peer Association as a Mediator

First, the within-individual effect of perceived informal labeling (t-1) on delinquent peer association (t) was statistically significant (unstandardized coefficient = 0.024,  $p < 0.01$ ) after controlling for a wave. Also, the between-individual effect of perceived informal labeling (t-1) on delinquent peer association (t) was statistically significant (unstandardized coefficient = 0.218,  $p < 0.001$ ) after accounting for sex, prior delinquency (wave 1 delinquency), and mean-wave, and the direction of the effect was positive in both levels. These results were estimated after accounting for the effect of level-3 city level variables. Thus, both within-individual effect and between-individual effect of the independent variable on the mediating variable were statistically significant in the expected direction. Second, both within-individual effect and between-individual effect of perceived informal labeling on delinquency were significantly positive as shown in **Table 6**.

Third, model 6 in **Table 6**. presents the result of the third step. In terms of the within-individual effect, the effect of perceived informal labeling on delinquency reduced from 0.025 to 0.011 and became insignificant when delinquent peer association was taken into account. Also, the effect of delinquent peer association on delinquency remained statistically significant (unstandardized coefficient = 0.041,  $p < 0.001$ ). This result shows that approximately 56% of the within-individual effect of perceived informal labeling on delinquency was explained by delinquent peer association. In the between-individual analysis, the effect size of perceived informal labeling on delinquency reduced from 0.369 to 0.259, and the effect of delinquent peer association on delinquency was significant (unstandardized coefficient = 0.048,  $p < 0.001$ ). That is, when delinquent peer association was included in the model, 45% increase in delinquency per one-unit increase in perceived informal labeling decreased to 30% increase in delinquency per one unit increase in perceived informal labeling. In other words, delinquent peer association explained 33% of the between-individual variation in delinquency that is explained by perceived informal labeling. In conclusion, the effect of perceived informal labeling on delinquency is

partially explained by delinquent peer association at both within-individual level and between-individual level.

As discussed in the methods section, the drawback of this type of “half-longitudinal design” is that temporal order does not exist between X and Z or between Z and Y (Cole & Maxwell, 2003). To overcome this limitation, I examined the statistical significance of the lagged effect of delinquent peer association on delinquency because the within-individual mediation analysis used both variables measured at the same waves. The result showed that the within-individual effect of delinquent peer association measured at t-1 on delinquency measured at t was still significant in the expected direction (unstandardized coefficient = 0.008,  $p < 0.001$ ). Thus, the partial mediation of delinquent peer association between within-individual variation in perceived informal labeling and within-individual variation in delinquency could be confirmed overall.

#### **4.4.10 Conclusion**

In conclusion, the mediation analysis shows that the effect of perceived informal labeling on delinquency is partially mediated by deviant self-concept at the between-individual level, while a significant mediation was not identified in the within-individual analysis. Also, the results indicate that the effect of perceived informal labeling on delinquency is mediated by delinquent peer association at both within-individual level and between-individual level. Attachment to parents, teachers, and friends, however, do not mediate the relationship between perceived informal labeling and delinquency at any level.

### **4.5 Conclusion**

In this chapter, I examined the mediation processes involved in the relationship between perceived informal labeling and delinquency. The results are summarized as followings. First, perceived informal labeling had both between- and within-individual positive effects on delinquency. This result is supportive of prior research (Adams et al, 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Pate & Hamilton, 1992; Triplett & Jarjoura, 1994) that found significant positive effects of informal labeling on delinquency. In particular, this study adds a unique contribution to this area of research by demonstrating a

**Table 6.** Hierarchical negative binomial mediation models

	Model1		Model2		Model3		Model4		Model5		Model6	
	Without MV		MV: Deviant self-concept (t)		MV: Attachment to parents (t)		MV: Attachment to teachers (t)		MV: Attachment to friends (t)		MV: Delinquent Peers (t+1)	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
<i>Level1 (Time level)</i>												
Perceived informal labeling	0.025*	0.011	0.034*	0.014	0.029**	0.011	0.025*	0.011	0.026*	0.011	0.011	0.011
Wave	-0.425***	0.012	-0.426***	0.012	-0.428***	0.012	-0.423***	0.012	-0.421***	0.012	-0.449***	0.012
Deviant self-concept			-0.014	0.015								
Attachment to parents					0.009	0.005						
Attachment to teachers							-0.008	0.007				
Attachment to friends									-0.016*	0.008		
Delinquent peers											0.041***	0.002
<i>Level2 (Individual level)</i>												
Perceived informal labeling	0.369***	0.046	0.223**	0.083	0.361***	0.048	0.371***	0.046	0.371***	0.046	0.259***	0.048
Prior delinquency	0.573***	0.042	0.568***	0.042	0.573***	0.042	0.568***	0.042	0.566***	0.042	0.460***	0.044
Female	-0.703***	0.128	-0.711***	0.128	-0.687***	0.129	-0.717***	0.128	-0.750***	0.128	-0.558***	0.126
Mean wave	0.059	0.135	0.074	0.135	0.057	0.135	0.063	0.135	0.057	0.136	0.137	0.138
Deviant self-concept			0.187*	0.087								
Attachment to parents					-0.015	0.016						
Attachment to teachers							-0.080*	0.033				
Attachment to friends									0.111***	0.030		
Delinquent peers											0.048***	0.011
<i>Level3 (City level)</i>												
Perceived informal labeling	0.016	0.261	0.221	0.569	-0.037	0.272	0.056	0.266	-0.001	0.261	-0.560^	0.283
Prior delinquency	-0.025	0.064	-0.023	0.065	-0.022	0.064	-0.021	0.065	-0.026	0.063	-0.001	0.057
Female	0.113	0.134	0.117	0.134	0.125	0.135	0.092	0.138	0.129	0.136	0.139	0.125
Deviant self-concept			-0.250	0.571								
Attachment to parents					-0.049	0.070						
Attachment to teachers							-0.047	0.153				
Attachment to friends									-0.073	0.133		
Delinquent peers											0.115*	0.052

Note. Coef.=Coefficient, SE= Standard Error, ^=p<.10, \*=p<.05, \*\*=p<.01, \*\*\*=p<.001, MV denotes Mediating Variable, t denotes the same wave with the perceived informal labeling, t+1 denotes the wave after 1 year when the perceived informal labeling is measured, N=14491 (Level 1), 2646 (Level 2), 100 (Level 3)

significant *within-individual* effect of perceived informal labeling on delinquency. Ultimately, this significant within-individual effect of perceived informal labeling on delinquency supports the labeling theory that originally proposes a within-individual change in delinquency according to the influence of formal- or informal labeling from time to time.

Second, although the between-individual effect of perceived informal labeling on delinquency was partially mediated by between-individual differences in deviant self-concept, the same significant mediating effect was not observed at the within-individual level. In particular, the result showed that perceived informal labeling measured at t-1 significantly reduced deviant self-concept measured at t, whereas the effect of perceived informal labeling significantly increased deviant self-concept measured at the same wave. This implies that although the contemporaneous within-individual effect of perceived informal labeling on delinquency may be positive, the adolescent may reject or deny others' deviant label as time goes by.

Another interesting finding is that although deviant self-concept did not have any significant effects on delinquency at the within-individual level, between-individual differences in deviant self-concept significantly influenced between-individual differences in delinquency. This result implies that the effect of adolescent self-concept on delinquency at the between-individual level may be a result of spuriousness because of a third variable such as early socializing with parents. That is, this result shows that the effect of adolescent self-concept on delinquency may be overstated in labeling theory. As Giordano et al. (2002, p. 998) stated, childhood and adolescence can be "defined by their dependency." That is, while environmental factors may be effective in explaining their behaviors, something that involves their own choice may not be useful to explain their behaviors because they are not adults who have enough discretion and power in selecting their own behaviors. It should also be noted, however, that the gap in the measurement between self-concept and delinquency was just one year in this study. Thus, the insignificant within-individual effect of self-concept on delinquency may be significant if the time gap is longer or shorter than one year.

Third, none of the measures of attachment to others produced significant mediating effects at both between-individual level and within-individual level. This result is somewhat contradictory to prior research (Paternoster & Iovanni, 1989; Sampson & Laub, 1997; Stewart et al., 2002; Triplett & Jarjoura, 1994; L. Zhang & Messner, 1994) that predicted potential

mediating processes by attachment to others. Not all research, however, has found the expected mediation effects of attachment to others. For example, Triplett and Jarjoura (1994) found the effect of parental labeling on parental attachment to be non-significant. Also, Zhang and Messner (1994) identified non-significant effects of formal labeling on attachment to parents and relatives. Thus, this study adds another evidence to this line of research that weakened attachment to others may not be a strong mediator between labeling and delinquency. That is, although labeling theorists (Becker, 1963; Bernburg & Krohn, 2003; Schur, 1971; Tannenbaum, 1938) propose that labeling would negatively influence prosocial relationships, these prosocial relationships are more likely to be practical relationships that are closely related to life opportunities (Bernburg & Krohn, 2003; Sampson & Laub, 1997) rather than emotional relationships such as attachment.

Another interesting finding is that within-individual effect of perceived informal labeling on attachment to friends was negative, while the between-individual effect of perceived informal labeling on attachment to friends was positive. This implies that there might be unobserved between-individual differences that make the positive relationship between perceived informal labeling and attachment to friends to be spurious. For example, the difference in the harshness of parenting between individuals may explain both perceived informal labeling and attachment to friends. Thus, if these individual differences are not properly controlled in estimating the between-individual effect, any observed relationship between perceived informal labeling and attachment to friends will be spurious. Given that within-individual analysis of this study controls for both any unobserved individual differences and the influence of age itself by including wave in the model, the negative within-individual effect of perceived informal labeling on attachment to friends is robust. This discrepancy in the direction of the effect is also found in the effect of attachment to friends on delinquency. Likewise, the positive effect of attachment to friends on delinquency at the between-individual level might be spurious because of other variables that were not included in the model. One possible source of the spuriousness may be low parental supervision. That is, if variables such as parental supervision are properly controlled, attachment to friends may operate as a type of social control that reduces delinquency as seen at the within-individual level.

Fourth, delinquent peer association partially explained both the within-individual effect and the between-individual effect of perceived informal labeling on delinquency. This result

corresponds to prior research (Adams & Evans, 1996; Bernburg et al., 2006; Heimer & Matsueda, 1994; Restivo & Lanier, 2015; Triplett & Jarjoura, 1994) that found the same mediating effect by delinquent peer association. Thus, the result shows that adolescents labeled by surrounding people may feel difficulties in socializing with prosocial people, and in turn, choose other delinquents as peers to feel security and comfort.

In sum, although the within-individual effect of perceived informal labeling on delinquency was statistically significant, the mediating processes involved in this relationship was not perfectly consistent with prior research that has examined between-individual mediating processes. Specifically, only delinquent peer association produced a significant moderating effect in the relationship between perceived informal labeling and delinquency at the within-individual level. This implies that although self-concept or attachment to others does not account for the within-individual effect of perceived informal labeling on delinquency in one year, a labeled individual may feel a comfort or security in the relationship with delinquent peers and may be involved more in delinquent behaviors.

## **CHAPTER 5**

### **MODERATING PROCESSES INVOLVED IN THE EFFECT OF PERCEIVED INFORMAL LABELING ON DELINQUENCY**

#### **5.1 Introduction**

Exploring factors that may condition the effect of labeling on delinquency has been one of the major interests among labeling theory researchers. This line of research has mainly focused on how the effect of formal or informal labeling on delinquency varies according to demographic factors (Adams et al., 1998; Ageton & Elliott, 1974; Bartusch & Matsueda, 1996; Bernburg & Krohn, 2003; Chiricos et al., 2007; Klein, 1986; Morris & Piquero, 2013; Ray & Downs, 1986; Sweeten, 2006). Although the empirical results have not been consistent and the interpretation also varies from study to study, these studies suggest that the effect of labeling is not the same across groups that have different characteristics.

The research on the moderating factors involved in the labeling effect, however, has been limited to demographic factors or some individual characteristics including criminal record with a small number of exceptions (Ciaravolo, 2011; Jackson & Hay, 2013; Liu, 2000). In order to fully understand the effect of labeling theory, however, more research should explore how variables from other theories that have proven their association with delinquency moderate the effect of labeling on delinquency. Also, there are few studies that have tested the moderation processes involved in the within-individual effect of labeling on delinquency. That said, most prior studies have adopted regression-based analyses that capture the between-individual effect of labeling on delinquency. To examine the moderation processes with a more rigorous manner, however, one needs to eliminate any individual differences in estimating the effect of labeling on delinquency, and to see how this within-individual effect can be influenced by other factors because labeling theory basically proposes how the behavior of a person changes over time under the influence of labeling (Sampson & Laub, 1997).

With these limitations in mind, I test the moderating processes involved in the within-individual effect of perceived informal labeling on delinquency. Given that informal labeling always happens in the relationship with surrounding people, and the degree of one's perception on informal labeling can vary over time, perceived informal labeling is suited for examining the

within-individual effect of labeling on delinquency. On the basis of this within-individual relationship between perceived informal labeling and delinquency, I test seven moderating variables: sex, prior delinquency, attachment to parents, attachment to teachers, attachment to very close friends, deviant self-concept, and delinquent peer association.

First, I replicate prior research that has examined the moderation effect of demographic factors and one's criminality by testing how sex and prior delinquency condition the within-individual effect of perceived informal labeling on delinquency. Second, attachment to parents, teachers, and very close friends measured at the same time point with perceived informal labeling are tested as potential moderators. Although the perception of informal labeling is formed based on the appraisals of surrounding people including parents, teachers, and friends, attachment to each source of labeling (i.e. parents, teachers, or friends) may vary and differently moderate the effect of perceived labeling imposed by generalized others. Third, the moderating effect of deviant self-concept is tested. Although labeling theory views deviant self-concept as a consequence of labeling in general, it is also possible that independently formed self-concept can reject or deny others' appraisals. Lastly, the moderating process by delinquent peer association is examined. As Liu (2000) explained, delinquent peers may further weaken the relationship between a labeled individual and prosocial people by instilling delinquent beliefs. Also, delinquent peers can strengthen the labeling effect by providing the labeled youth with criminal opportunities.

## **5.2 Literature Review**

### **5.2.1 Moderating Effects of Sex, Prior Delinquency, and Attachment to Others**

This study considers sex, prior delinquency, and attachment to others as possible moderators that may condition the effect of perceived informal labeling on delinquency. In terms of sex and prior delinquency, females and those who have a lower level of prior delinquency have often been considered as low risk-groups in terms of delinquency. If these variables interact with informal labeling, however, the direction of the moderating effect is hard to expect. While some studies found that males (Ageton & Elliott, 1974), people who have higher level of prior delinquency (Morris & Piquero, 2013) were more vulnerable to labeling, others found stronger



labeling effects for females (Chiricos et al., 2007; Ray & Downs, 1986) and for those who have lower level of prior records (Chiricos et al., 2007; Sweeten, 2006).

To explain why females are more vulnerable to labeling, researchers (Giordano, Cernkovich, & Lowery, 2004; Messerschmidt, 1993; Ray & Downs, 1986) have focused on the difference in social power between males and females (see Chiricos et al., 2007). For example, Giordano et al. (2004) speculated that the social stigma attached to females may be more likely to limit life opportunities for females than males. Similarly, Ray and Downs (1986) argued that females would be more sensitive to social labeling because females may lose more than males when being labeled because of relatively insufficient social power. In supportive of this argument, they found that males are more likely to be affected by self-concept, while females are more likely to be influenced by others' appraisals. On the other hand, the logic of lower vulnerability for females focuses on risk-averse characteristics of females. That is, proponents of this perspective argue that the effect of labeling is stronger for males because males are risk-taking in general, while females are risk-averse (Keane et al., 1989). Similarly, some may argue that the effect of informal labeling on delinquency will be stronger for those who have a higher level of prior delinquency because those people are more likely to be risk-taking than those who have a lower level of prior delinquency.

Meanwhile, Sherman et al. (1992) proposed two opposing theoretical explanations regarding the moderating effects of social control factors. Although there are few studies that directly addressed the moderating effect of attachment in the relationship between informal labeling and delinquency, prior research that focused on social control factors shed some light on this issue because attachment to others is one of the key elements of social control (Hirschi, 1969). First, one can posit that social control resources can insulate the effect of informal labeling. According to this "less vulnerability hypothesis (Sherman et al., 1992, p. 682)", the effect of labeling on delinquency will decrease when an individual has greater stakes in conformity. On the other hand, "Greater vulnerability hypothesis (Sherman et al., 1992, p. 682)" speculates that labeling has more serious impacts for those who have greater stakes in conformity because these people are more sensitive to social appraisals and more likely to change their self-concept accordingly.

Other theoretical perspectives generally coincide with less vulnerability hypothesis. For example, Orcutt (1973) suggested that the outcome of labeling can differ according to the

reaction of the community. Specifically, Orcutt (1973, p. 260) proposed two types of community reactions to the labeled individual. Inclusive reactions do not involve the exclusion of the individual from the community, while exclusive reactions reject the individual from the community and deprive him of the status as a member of the community. In turn, the individual who experiences inclusive reactions is assumed to be less likely to be involved in the subsequent delinquency compared to the individual who experiences exclusive reactions. Braithwaite (1989) theorizes a similar moderating process between labeling and delinquency. He uses the term, shaming instead of labeling, and proposes that the effect of shaming depends on the way that the shaming is imposed on the individual. He developed two concepts: stigmatization and reintegrative shaming. Stigmatization refers to the shaming that does not involve any attempts to reconcile the offender with the community, whereas reintegrative shaming means the shaming imposed to the individual in a way that integrates the individual into the prosocial group. Braithwaite (1989) argues that stigmatization increases the possibility of reoffending, while reintegrative shaming decreases the recidivism. In sum, Orcutt (1973) and Braithwaite (1989) view that the effect of labeling on delinquency decreases when the following reaction or the labeling itself is implemented in a way that increases social control. Empirical research (Dong & Krohn, 2017; Jackson & Hay, 2013) on the moderating role of social control practices also show that social control factors attenuate the effect of labeling on later delinquency in general.

In conclusion, empirical research has produced inconsistent results in terms of the moderating role of social status factors such as sex and prior delinquency. Although research on social control factors also suggests that attachment to others can either increase or reduce the effect of labeling on delinquency, more theoretical perspectives and empirical studies have supported less vulnerability hypothesis that those who have higher social control resources are less vulnerable to informal labeling.

One caveat, however, should be noted. When discussing the effect of attachment to others, one should consider that attachment to unconventional parents or delinquent peers may not have a constraining effect on delinquency (Conger, 1976; Elliott et al., 1985; Jensen & Brownfield, 1983; Junger-Tas, 1992; Warr, 2002). Also, regardless of delinquency, research on attachment to peers or time-spends with peers often found unexpected non-significant effects in reducing delinquency (Wiatrowski, Griswold, & Roberts, 1981), or increased delinquency

(Haynie & Osgood, 2005; Osgood et al., 1996) because socializing with peers itself can provide opportunities for delinquent behaviors regardless of peers' delinquency.

### **5.2.2 Self-identity as a Moderator**

Critics of labeling theory (Akers & Sellers, 2012; Gibbs, 1966; Kubrin et al., 2009; Raymond Paternoster & Iovanni, 1989; Rogers & Buffalo, 1974) have pointed out that labeling theory lacks consideration on the role of human agency in predicting desistance and persistence from crime. For example, Paternoster and Iovanni (1989, p. 376) emphasize the importance of human agency that can “reject or fight” the label. They criticize that labeling theory pays little attention to the role of the actor who has the ability to influence their own life. That is, critics of labeling theory commonly indicate that labeling theory should be modified to incorporate both social environmental factors (i.e. labeling) and human agency factors to predict persistence and desistance from crime.

One of the possible concepts that can be considered as a human agency is self-identity which provides consistency in a person's action. As Paternoster and Bushway (2009, p. 1112) point out, self-identity is “an active subject intentionally pursuing lines of activity that makes human beings agents.” In labeling theory, however, the concept of self-identity is only seen as a result of the interaction with others who impose the deviant label. Thus, in the traditional labeling theory framework, the concept of self-identity just appears as a consequence of formal or informal labeling rather than a factor that can interact with labeling to predict crime and delinquency. This idea reflects the symbolic interactionism root of labeling theory that self-identity is formed through interaction with others (Cooley, 1902; Mead, 1934).

The self-identity conceptualized by recent identity theories of desistance, however, do not see self-identity as a mere product of labeling but an entity that can be created by other-than-labeling factors including the actor's inner inducement (Giordano et al., 2002; Maruna, 2001; Ray Paternoster & Bushway, 2009). They view that self-identity is something that is formed by the actor's internal motive, and incorporate it as a form of human agency in their theoretical frameworks as a consequential factor to predict persistence and desistance. Specifically, these theories basically agree with the importance of social bonding factors in a desistance process as Sampson and Laub (Laub & Sampson, 2003; Sampson & Laub, 1993) suggest, but argue that some sort of change in self-identity of the actor is also needed before the individual seeks out

conventional social bonds (Paternoster & Bushway, 2009) or takes advantage of the bonding opportunities (Giordano et al, 2002). In other words, identity theories emphasize the interaction of self-identity as a human agency factor and social bonding as a social environmental factor to explain persistence and desistance from crime.

For instance, Paternoster and Bushway (2009) argue that offenders who have “working identity as a criminal offender” should change their identity to a “possible self of a non-offender” before they seek out conventional social bonds through a good marriage or a stable employment in order to stop their criminal careers. What should be emphasized in their theory is that they see the source of change in self-identity is *fear of continuous failure in life*, which is the actor’s internal motive. This perspective is somewhat inconsistent with the symbolic interactionist perspective that sees deviant self-identity as a natural consequence of negative interaction with others. According to the symbolic interactionist perspective, a person eventually comes to have a self-identity of what others think of him or her and acts consistent with their self-identity. In other words, the symbolic interactionist perspective proposes that if an individual is viewed by others as a deviant, the individual would think of himself as a deviant, and would continue delinquency. On the other hand, Paternoster and Bushway (2009) theorize that some individuals who have *offender working identity* can experience *fear of failure in life* at some point. Thus, they begin to craft positive self-identity according to their internal motive.

Giordano et al. (2002) also emphasize the role of identity change as a result of the actor’s inner motive. Their conception of self-identity is rooted in symbolic interactionist concept of self-identity in that identity change is assumed to follow the actor’s interaction with conventional others in conventional relationships (i.e. marriage, stable job, etc.), which they term “hooks for change”. They, however, simultaneously emphasize that the initial step of change starts before an individual is involved in conventional relationships. That is, their theory proposes that although the identity change completes through interplay with conventional others, the individual should develop a general openness to change and should interpret “hooks for change” positively before he or she would take advantage of conventional relationships. This perspective also emphasizes that the self-identity is not a mere consequence of others’ view on him or her, but a result of the actor’s own motive.

Maruna’s (2001) theory also emphasizes the role of self-identity as a result of human agency in a desistance process. According to Maruna (2001), the crime trajectory of punished

offenders can diverge depending on the quality of their self-identity although he did not explicitly mention the change in self-identity. This perspective also highlights the idea that labeled individuals do not equally have a deviant self-identity but could have either positive or negative self-identity by the actor's internal motive. All these identity perspectives commonly indicate that self-identity is not only a consequence of labeling as labeling theory proposes but also an entity that can be developed independently by the actor's internal inducement. Based on this idea, self-identity can be considered as a factor that may condition the effect of labeling on future crime, instead of an outcome of the labeling process.

The identity theorists' emphasis on the role of self-identity as a type of human agency sheds some light on informal labeling theory research. According to informal labeling framework, those who are labeled by close people come to experience social isolation, that is, the absence of conventional bonds (Becker, 1963; Schur, 1971; Tannenbaum, 1938). In turn, as identity theories see that the interaction of social bonding factors and positive self-identity leads to desistance, the same mechanism occurs on the other side of the spectrum. That is, one can posit that negative self-identity would condition the effect of the absence of conventional social bonding represented by informal labeling on the persistence of delinquency.

Then, the next question should be what the self-identity means. It is not easy, however, to precisely define or measure self-identity that has been addressed in numerous literature with a variety of perspectives (Abdelal, 2009; Blasi, 1993; Rocque et al., 2016). Intuitively, the concept, self-identity can be described as an answer to the question of "Who am I?" (Paternoster & Bushway, 2009, p1112). Most scholars agree that the answer to this question can be diverse (Matsueda, 1992; Paternoster & Bushway, 2009). Thus, self-identity is often viewed as being multidimensional in nature. Among those various dimensions of self-identity, labeling theory has focused on the deviant self-identity that is assumed to be the most likely to be associated with delinquency outcomes by symbolic interactionism perspective (see Matsueda, 1992).

The self-identity conceptualized by identity theorists, however, is not restricted to the deviant self-identity but comprises broader dimensions that may be directly or indirectly related to delinquency or crime. Specifically, Paternoster and Bushway (2009, p. 1113) illustrate offenders' negative working self-identities with examples of "drug user, a person with limited education and legitimate job possibilities. Also, they explain positive self-identities of those who desist from offending with examples of "working in a job (though perhaps for minimum wage),

being a better parent and partner, owning a car, and ceasing my life of drug use and crime”. That is, the concept self-identity theorized by Paternoster and Bushway (2009) not only incorporates a *good-or-bad* dimension but also includes other dimensions such as *success-or-failure* and *valuable-or-valueless*. In their qualitative research, Giordano et al. (2002) also point out that self-esteem or self-efficacy as a good mom, a good spouse, or a good worker established in conventional relationships is a type of self-identity that is related to desistance outcome.

There have been a limited number of empirical studies for identity theories (Na et al., 2015; Opsal, 2012; Rocque et al., 2016; Stevens, 2012). Among them, quantitative studies are fewer (Na et al, 2015; Rocque et al, 2016). These studies commonly point out the difficulty or limitation in measuring self-identity. For example, Rocque et al. (2016) measure self-identity based on a *good-or-bad* dimension, while confessing the imperfectness of their measurement of self-identity. Na et al (2015) also admit conceptual vagueness of their self-identity measure. They, however, included a variety of factors beyond the *good-or-bad* dimension. Specifically, their measure includes such items as “I feel that I am a failure”, “I feel I do not have much to be proud of”, “On the whole, I am satisfied with myself”, and “I certainly feel useless at times.” Thus, their measure of self-identity incorporates broader dimensions compared to Rocque et al’s (2015).

### **5.2.3 Delinquent Peer Association as a Moderator**

Prior research on labeling theory often regards delinquent peer association as an outcome of formal or informal labeling and a mediating variable that accounts for the effect of labeling on secondary deviance (e.g. Bernburg et al., 2006; Johnson et al., 2004; Restivo & Lanier, 2015). The logic of this mediating mechanism had been established by early labeling theorists (Becker, 1963; Schur, 1971; Tannenbaum, 1938) who indicated the role of delinquent peers who may provide a labeled individual with comfort and security.

Delinquent peer association, however, can also be considered as an independent factor that moderates the effect of informal labeling on delinquency, given that labeling is not the only factor that causes delinquent peer association. There has been a significant theoretical discussion on other predictors of delinquent peer association including neighborhood disadvantages (Akers, 1998), low self-control (Gottfredson & Hirschi, 1990), and strain (Cloward & Ohlin, 1960). For example, Akers (1998) theorizes that neighborhood structural disadvantages lead the adolescents

who live there to be in association with delinquent peers, and in turn, this delinquent peer association increases their level of delinquency. Gottfredson and Hirschi (1990) argue that those who have low self-control seek similar peers in behavior because of homophily. Also, Cloward and Ohlin (1960) propose that neighborhood context determines the type of deviant learning opportunities, that is a differential association, and this deviant learning opportunities interact with strain factors to predict delinquency. In sum, all these theoretical statements commonly suggest that delinquent peer association is not only a product of formal or informal labeling but a consequence of a variety of structural and psychological factors.

Liu (2000) proposes some theoretical logic of how delinquent peer association moderates the effect of informal labeling on adolescent delinquency. First, informally labeled individuals' negative emotions toward conventional people may increase through delinquent peer association because delinquent peers provide them with learning environments of similar negative sentiment against conventional society. In other words, negative emotions toward the conventional value system can be accumulated by delinquent peer association. In turn, delinquent peer association may further weaken social ties with conventional people and lead the individual to be involved in more delinquent behaviors. Second, delinquent peers may amplify the harmful effect of informal labeling by endorsing delinquent behaviors as a response to frustration caused by informal labeling. Lastly, a labeled individual may have more delinquent opportunities in the relationship with delinquent peers. Based on this logic, Liu (2000) found that the effects of both actual- and perceived parental labeling on delinquency increased when labeled adolescents have more delinquent peers or when their peers had more positive attitudes toward delinquency.

## **5.3 The Present Study**

### **5.3.1 Research Question, Data, and Measures**

Based on prior research, this study tests how the effect of perceived informal labeling on delinquency is moderated by social status factors, attachment to others, self-identity, and peer delinquency. One of the limitations of prior studies in this area is that most studies did not fully control for between-individual differences in their empirical tests. Thus, they failed to observe how within-individual effects of labeling on delinquency were conditioned by these factors. This void in research is a significant limitation given the original theoretical statements of labeling

theory that proposes an individual's within-individual change in delinquent behaviors over time (see Sampson & Laub, 1997). Thus, this study focuses on how these moderating variables condition within-individual effects of perceived informal labeling on delinquency from time to time.

As social status factors, I use sex and the level of prior delinquency as possible moderators. As discussed above, prior studies have produced somewhat inconsistent results in terms of the direction of the moderating effects of social status factors. Also, little is known about the reason why this inconsistency occurs. However, given that a small number of informal labeling studies (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994) that addressed moderation effects of social status factors commonly show stronger effects for those considered to have high-risk factors, the hypotheses of this study will follow this line of research.

The conditioning effects of attachment to others are examined by separating the object of attachment into three different types: parents, teachers, and very close friends. In general, the conditioning effects of parental attachment and attachment to teachers can be expected to be similar because both parents and teachers are conventional people. The conditioning effect of attachment to very close friends, however, may be somewhat different because friends during adolescence are often considered as a provider of delinquent opportunities (Haynie & Osgood, 2005; Osgood et al., 1996). Also, although Hirschi (1969) argues that attachment to friends will reduce delinquency regardless of the friends' delinquency because attachment always works as a type of social control, the empirical evidence (Conger, 1976; Junger-Tas, 1992; Warr, 2002) is generally unresponsive of this claim. That is, attachment to delinquent friends are often found to increase the level of delinquency. Given this discussion and empirical studies on the effect of attachment to parents, teachers, and friends, I expect that attachment to parents and teachers will reduce the positive within-individual effects of perceived informal labeling on delinquency, while attachment to very close friends will amplify the same effects.

Deviant self-identity is hypothesized to amplify the effects of perceived informal labeling on delinquency, given the propositions of identity theories of desistance that imply weakened social control (that can be caused by labeling) interacts with negative self-identity to predict future delinquency. Delinquent peer association is expected to magnify the positive effect of perceived informal labeling on delinquency because delinquent peers not only provide



delinquent opportunities but also facilitate estrangement from conventional social values as discussed in Liu's (2000) study.

In sum, I focus on the following specific research question in this chapter. How do sex, prior delinquency, deviant self-concept, attachment to parents, attachment to teachers, attachment to very close friends, and delinquent peer association respectively moderate the within-individual effect of perceived informal labeling on delinquency?

### 5.3.2 Analytic Strategies

The moderating effects of sex and prior delinquency are examined by estimating cross-level interaction effects between perceived informal labeling located at level 1 and sex and prior delinquency located at level 2 because sex and prior delinquency, which is a wave 1 delinquency, are time-stable variables that show between-individual differences. The specific equation for testing the moderating effect of sex is presented in **Figure 2**.

**Level-1 Model**  
 $E(DL_{ij}|\pi_{ij}) = \lambda_{ij}$   
 $\log[\lambda_{ij}] = \eta_{ij}$   
 $\eta_{ij} = \pi_{0ij} + \pi_{1ij}*(Wave_{ij}) + \pi_{2ij}*(Perceived\ Informal\ Labeling(lagged)_{ij})$

**Level-2 Model**  
 $\pi_{0ij} = \beta_{00j} + \beta_{01j}*(Female) + \beta_{02j}*(Mean\ of\ PIL(lagged)_{ij}) + \beta_{03j}*(Mean\ Wave_{ij}) + r_{0ij}$   
 $\pi_{1ij} = \beta_{10j}$   
 $\pi_{2ij} = \beta_{20j} + \beta_{21j}*(Female) + r_{2ij}$

**Level-3 Model**  
 $\beta_{00j} = \gamma_{000} + \gamma_{001}(City\ Mean\ Female_j) + \gamma_{002}(City\ Mean\ of\ PIL(lagged)_j) + u_{00j}$

**Figure 2.** Three-level negative binomial moderation model (Sex)

The moderating effects of the other variables, however, are estimated by including interaction terms between perceived informal labeling and each of the moderating variables in level 1 equation because these other moderating variables are time-varying variables. An example of a specific equation is presented in **Figure 3**. As discussed in Chapter 4, all the effects are estimated with three-level random effects negative binomial regression models.

**Level-1 Model**  
 $E(DL_{tij}|\pi_{ij}) = \lambda_{ij}$   
 $\log[\lambda_{ij}] = \eta_{ij}$   
 $\eta_{ij} = \pi_{0ij} + \pi_{1ij}*(Wave_{tij}) + \pi_{2ij}*(PIL(lagged)_{tij}) + \pi_{3ij}*(AT(lagged)_{tij}) + \pi_{4ij}*(PIL(Lagged)*AT(lagged)_{tij})$

**Level-2 Model**  
 $\pi_{0ij} = \beta_{00j} + \beta_{01j}*(Mean\ PIL(lagged)_{ij}) + \beta_{02j}*(Mean\ AT(lagged)_{ij}) + \beta_{03j}*(Mean\ PIL(lagged)*AT(lagged)_{ij}) + \beta_{04j}*(Mean\ wave_{ij}) + r_{0ij}$

**Level-3 Model**  
 $\beta_{00j} = \gamma_{000} + \gamma_{001}(City\ Mean\ PIL(lagged)_j) + \gamma_{002}(City\ Mean\ AT(lagged)_j) + \gamma_{003}(City\ Mean\ PIL(lagged)*AT(lagged)_j) + u_{00j}$

**Figure 3.** Three-level negative binomial moderation model (Attachment to teachers)

## 5.4 Results

**Table 7.** presents cross-level interaction effects between level1 perceived informal labeling and Sex or Prior delinquency. The interaction effect of level1 perceived informal labeling and Sex on delinquency was marginally significant (p = 0.056). The direction of the interaction effect was positive, implying that the positive within-individual effect of informal labeling on delinquency was stronger for females than males. Meanwhile, the interaction effect between perceived informal labeling and prior delinquency was not significant.

**Table 7.** Moderation models by sex and prior delinquency

	Model1		Model2	
	Coef.	SE	Coef.	SE
<i>Cross-level interaction &amp; Level1</i>				
Perceived informal labeling × Sex	0.130 <sup>^</sup>	0.068		
Perceived informal labeling × Prior delinquency			-0.006	0.023
Perceived informal labeling	-0.111 <sup>*</sup>	0.044	-0.066	0.038
Wave	-0.471 <sup>***</sup>	0.012	-0.473 <sup>***</sup>	0.012
<i>Level2 (Individual Level)</i>				
Perceived informal labeling	0.671 <sup>***</sup>	0.056	0.517 <sup>***</sup>	0.057
Sex	-0.642 <sup>***</sup>	0.145		
Prior delinquency			0.587 <sup>***</sup>	0.048
Mean wave	0.156	0.160	0.152	0.159
<i>Level 3 (City Level)</i>				
Perceived informal labeling	0.136	0.300	0.467	0.274
Sex	0.215	0.154		
Prior delinquency			0.005	0.071

*Note.* Coef.=Coefficient, SE= Standard Error, <sup>^</sup>=p<.10, <sup>\*</sup>=p<.05, <sup>\*\*</sup>=p<.01, <sup>\*\*\*</sup>=p<.001, N=14,491 (Level 1), 2,646 (Level 2), 100 (Level 3)

**Table 8.** presents the interaction effects between level1 perceived informal labeling and level1 attachment to parents, teachers, and very close friends. The interaction effect of level1 perceived informal labeling and attachment to parents on delinquency was statistically significant, but the direction of the moderating effect was unexpectedly positive. This implies the within-individual positive effect of perceived informal labeling on delinquency increases at the wave when attachment to parents is higher than other waves.

The interaction effect of level1 perceived informal labeling and attachment to teachers on delinquency was statistically significant, and the direction of the moderating effect was negative. This result means that the within-individual positive effect of perceived informal labeling on delinquency decreases at the wave when attachment to teachers is higher than other waves.

The interaction effect of level1 perceived informal labeling and attachment to very close friends on delinquency was statistically significant, and the direction of the moderating effect was positive. This result shows that the within-individual positive effect of perceived informal labeling on delinquency increases at the wave when attachment to friends is higher than other waves.

**Table 8.** Moderation models by attachment to parents, teachers, and very close friends

	Model1		Model2		Model3	
	Coef.	SE	Coef.	SE	Coef.	SE
<i>Level1</i>						
Perceived informal labeling	-0.034	0.034	0.119***	0.024	-0.222***	0.062
Attachment to parents	-0.007	0.009				
Attachment to teachers			0.048**	0.015		
Attachment to very close friends					-0.076***	0.016
Perceived informal labeling × Attachment to parents	0.003*	0.002				
Perceived informal labeling × Attachment to teachers			-0.013***	0.003		
Perceived informal labeling × Attachment to very close friends					0.014***	0.003
Wave	-0.429***	0.012			-0.421***	0.012

*Note.* Coef.=Coefficient, SE= Standard Error, \*=p<.05, \*\*=p<.01, \*\*\*=p<.001, N=14,491 (Level 1), 2,646 (Level 2), 100 (Level 3), In each model, individual mean perceived informal labeling (PIL), individual mean attachment to parents, teachers, or very close friends (AT), individual mean wave, individual mean PIL×AT were controlled at level 2, and city mean PIL, city mean AT, and city mean PIL×AT were controlled at level 3.

The first model in **Table 9.** presents an interaction effect between level1 perceived informal labeling and level1 deviant self-concept. The interaction term, however, did not have a significant effect on delinquency.

Model 2 in **Table 9.** shows an interaction effect between level1 perceived informal labeling and delinquent peer association. Although the effect size was small, the result shows

that the moderating effect of delinquent peer association was statistically significant in the expected positive direction. In other words, the within-individual positive effect of perceived informal labeling on delinquency increases at the wave when delinquent peer association is higher than other waves.

**Table 9.** Moderation models by deviant self-concept and delinquent peer association

	Model1		Model2	
	Coef.	SE	Coef.	SE
<i>Level1</i>				
Perceived informal labeling	0.039	0.027	-0.009	0.014
Deviant self-concept	-0.01	0.026		
Delinquent peer association			0.033***	0.004
Perceived informal labeling × Deviant self-concept	-0.001	0.004		
Perceived informal labeling × Delinquent peer association			0.002*	0.001
Wave	-0.426***	0.012	-0.448***	0.012

*Note.* Coef.=Coefficient, SE= Standard Error, \*=p<.05, \*\*=p<.01, \*\*\*=p<.001, N=14,491 (Level 1), 2,646 (Level 2), 100 (Level 3), In each model, individual mean perceived informal labeling (PIL), individual mean deviant self-concept (DS) or delinquent peer association (DPA), individual mean wave, individual mean PIL×DS or DPA were controlled at level 2, and city mean PIL, city mean DS or DPA, and city mean PIL×DS or DPA were controlled at level 3.

## 5.5 Conclusion

In this chapter, the moderation processes involved in the within-individual effect of perceived informal labeling on delinquency have been tested. As moderating variables, sex, prior delinquency, attachment to others, deviant self-concept, and delinquent peer association were chosen based on prior research. First, although this study could not find a significant moderation effect of prior delinquency, the within-individual positive effect of perceived informal labeling on delinquency was significantly stronger for females than males. The result that females are more likely to be influenced by labeling than males is consistent with the results of some previous studies (Chiricos et al., 2007; Ray & Downs, 1986), but contradicts other studies (Baumer, 1997; Gendreau, Little, & Goggin, 1996; Giordano et al., 2004; Smith & Paternoster, 1990).

When it comes to the moderating effect of attachment to others, this study produced seemingly confusing results to explain. Specifically, attachment to parents strengthened the positive within-individual effect of perceived informal labeling on delinquency, while attachment to teachers moderated the within-individual relationship between perceived informal labeling and delinquency in the opposite direction. Lastly, attachment to very close friends turned out to increase the positive within-individual effect of perceived informal labeling on delinquency.

First, the moderation of attachment to very close friends is supportive of the hypothesis of this study. That is, attachment to friends increases the harmful effect of informal labeling on delinquency because attachment to very close friends may provide more opportunities to hang out with those friends in the absence of parental- or teachers' control, and in turn, increase the possibility to be involved in delinquency (Haynie & Osgood, 2005; Osgood et al., 1996). Second, Attachment to teachers also moderated the within-individual effect of perceived informal labeling on delinquency in the hypothesized direction. That said, attachment to teachers operated as a protective factor that mitigated the harmful effect of informal labeling on delinquency. This implies that attachment to prosocial people can be a social resource that may offset the effect of informal labeling. Thus, this result is consistent with "less vulnerability hypothesis (Sherman et al., 1992, p. 682)" that a higher level of stakes in conformity decreases the effect of labeling on delinquency.

Attachment to parents, however, produced the opposite moderation effect to the hypothesis. Given the measurement of attachment to parents and appropriateness of the analysis of this study, this result is robust. There might be some reasons for this counter-intuitive result.

First, indulgent parenting can be a reason why attachment to parents increased the positive effect of perceived informal labeling on delinquency. Indulgent parenting refers to highly responsive but rarely demanding parenting (Baumrind, 1971). Empirical research on the relationship between indulgent parenting and delinquency (Bahr & Hoffmann, 2010; Clarke, Dawson, & Bredehoft, 2014; Cui, Darling, Lucier-Greer, Fincham, & May, 2018; Cui, Graber, Metz, & Darling, 2016; Driscoll, Russell, & Crockett, 2008) has shown that indulgent parenting is positively associated with behavioral problems during childhood and adolescence. That said, if parents spot their child's inclination to cause problems, but they do not offer the needed control in response to this, the child's attachment to parents may remain higher, while also allowing

delinquency to occur. In this case, attachment to parents can operate as an amplifying factor of delinquency. This result is also consistent with the result that parental attachment did not have a significant effect on delinquency in Chapter 4.

To validate this explanation, I examined whether parental supervision reduced the positive within-individual effect of perceived informal labeling on delinquency. Although the KYPS data do not have items tapping parental discipline, the data have 4 items tapping parental supervision, which can be considered as a type of parental direct control. Specifically, parental supervision variable was created as a combined measure of 4 items: When I go out, parents usually know where I am, when I go out, parents usually know whom I am with, when I go out, parents usually know what I am doing, and when I go out, parents usually know when I return. The result showed that the parental supervision measure significantly reduced the positive within-individual effect of perceived informal labeling on delinquency (coefficient = -0.006,  $p < 0.05$ ). That is, the result showed that parental direct control can be a more efficient protective factor than parental attachment against the harmful effect of informal labeling on delinquency.

Second, given that Korean adolescents spend a majority of time in the school, attachment to parents might be less influential in reducing delinquency than attachment to teachers. In other words, attachment to teachers may be more consequential in reducing adolescent delinquency in this age group because most of the adolescents' behaviors including delinquency occur in the school where teachers are more influential than their parents.

Overall, the result shows that attachment to teachers moderate the effect of perceived informal labeling on delinquency in a way consistent with less vulnerability hypothesis, whereas the moderating effects of attachment to parents and attachment to very close friends were not supportive of less vulnerability hypothesis. In turn, the result implies that attachment to others does not consistently mitigate the positive effect of informal labeling on delinquency but depends on more complex factors including characteristics of people to whom an adolescent attached, relationships with those people, and the place where delinquency occurs.

Meanwhile, the interaction effect of perceived informal labeling and deviant self-concept was not significant. This means that deviant self-concept during adolescence does not influence the effect of perceived informal labeling on delinquency. Given the prior research (Na et al., 2015; Rocque et al., 2016) that suggests a significant interaction effect of social control factors and self-identity, this result is not what this study expected. As Giordano et al. (2002) suggest,

however, identity can be more influential to one's behavior when the individual is an adult because adults have more discretion in determining their behaviors than adolescents. According to this perspective, the result of this study can be justified that adolescent self-concept is less influential as a moderating factor than expected because self-concept is not closely related to an individual behavior during adolescence.

Lastly, the interaction effect of perceived informal labeling and delinquent peer association on delinquency was significant. Specifically, peer delinquency increased the effect of perceived informal labeling on delinquency. This result is consistent with Liu's (2000) perspective that delinquent peers would provide anti-prosocial value system as well as delinquent opportunities that may increase the harmful effect of informal labeling on delinquency.



## **CHAPTER 6**

### **DISCUSSION AND CONCLUSION**

#### **6.1 Introduction**

Despite recent theoretical- and empirical revitalization of labeling theory, the scope of the labeling research has been limited to formal labeling. This unequal attention to formal labeling resulted in a lack of understanding of another important dimension of labeling, that is, informal labeling. Also, prior research on labeling theory has not properly reflected the theory's developmental nature because of limitations in statistical methods. Moreover, a variety of mediating and moderating mechanisms involved in the relationship between labeling and secondary deviance still remain unexplored. This study focused on filling these voids by examining the within-individual effect of perceived informal labeling on delinquency with mediating and moderating processes.

#### **6.2 Findings**

##### **6.2.1 Mediation Processes**

The within-individual analyses produced interesting findings. First of all, adolescents' perception of informal labeling had a positive within-individual effect on delinquency although the effect size was minimal. Given that within-individual analyses of this study automatically controlled for between-individual differences by including mean-values of level 1 variables in level 2 equation, and also eliminated the effect of age itself by including wave in level 1, this small effect size is understandable. That is, although the change in the level of delinquency by change in perceived informal labeling was minimal, this finding is robust and clearly shows a significant within-individual effect of perceived informal labeling on delinquency.

Mediating processes were tested in Chapter 4. with potential mediators, which were deviant self-concept, attachment to parents, teachers, and very close friends, and delinquent peer association. In particular, I simultaneously analyzed the mediating processes involved in both within-individual- and between-individual effects of perceived informal labeling on delinquency.

This analytic strategy was proper to observe whether within-individual analyses produced different results from between-individual analyses.

In terms of deviant self-concept, the result of a mediation analysis at the within-individual level was different from the result of mediation analysis at the between-individual level. That is, while the between-individual effect of perceived informal labeling on delinquency was significantly accounted for by deviant self-concept, the mediating effect was not observed in the within-individual analysis. The other mediators, however, showed the same mediating processes in both within-individual analyses and between-individual analyses. Specifically, while attachment to parents, teachers, and very close friends did not mediate the perceived informal labeling and delinquency link in both within-individual analysis and between-individual analysis, delinquent peer association mediated the link in both within-individual analysis and between-individual analysis.

Given the basic proposition of labeling theory that alteration of one's self-concept resulted from labeling leads to increased delinquency, the finding that deviant self-concept did not mediate the relationship between perceived informal labeling and delinquency was somewhat surprising. Most of all, a strong positive within-individual association between perceived informal labeling and deviant self-concept disappeared and changed to a negatively significant effect when there was a time-lag between two variables. This contradicts the labeling theory perspective that labeling leads an individual to have a deviant master status that may persist for a long-term (Becker, 1963). Rather, the result shows that the positive within-individual effect of perceived informal labeling on deviant self-concept dissipates as time goes by.

This seemingly contradicting result to labeling theory can be explained by the difference between formal labeling and informal labeling. As Lemert (1951) described, formal labeling by criminal justice authorities acts as a criminogenic turning point of one's life, unlike informal labeling that may frequently occur in the relationship with surrounding people. That is, although informal labeling may occur more frequently and have a more direct effect on one's identity than formal labeling, the effect may not sustain for a long-time unlike formal official sanctions because people who label an adolescent are the people with whom an adolescent is already familiar. Thus, the adolescent may not regard the small within-individual change in their appraisals as being serious. In turn, this seemingly contradicting result to labeling theory is actually consistent with labeling theory because early labeling theorists (Lemert, 1951;

Tannenbaum, 1938) pointed out that informal social reactions that do not involve formal labeling are not enough to lead identity change. Although this study does not contain any measure of formal labeling, the proportion of adolescents who experienced formal labeling may be minimal in this sample given that the data were collected from a general population of adolescents in Korea.

Another point that should be emphasized is that the lagged within-individual effect of perceived informal labeling on deviant self-concept was significantly negative. This result is consistent with the idea of Paternoster and Iovanni (1989) that a labeled individual does not always accept the labeling but may reject or deny it in some conditions. The within-individual analysis of this study clearly demonstrated this perspective. The result shows that an informally labeled individual may accept deviant self-identity instantaneously but as time goes by, the individual may think that those appraisals are unfair, and develop opposite self-identity as a type of resistance to the people who labeled. Paternoster and Bushway (2009) may suggest a somewhat different explanation for the negative effect of perceived informal labeling on deviant self-concept. Paternoster and Bushway (2009) proposed the possibility that if a person appraised negatively by others, the person may experience *fear of failure in life* and may try to have positive self-identity accordingly. Thus, it is a possible scenario that informal labeling decreases deviant self-concept in a year.

Meanwhile, the between-individual effect of deviant self-concept on delinquency might be spurious because of unobserved between-individual differences. Although prior delinquency measured at the first wave and sex were controlled, there might be other sources of spuriousness such as formal labeling. Unfortunately, the data of this study do not have a measure of formal labeling. Given that the within-individual analysis automatically controlled for any unobserved differences between individuals, seemingly strong between-individual associations among perceived informal labeling, deviant self-concept, and delinquency might be spurious by the third variables that were not included in the model.

Although perceived informal labeling had significant and negative effects on attachment to parents in both within-individual analysis and between-individual analysis, attachment to parents did not produce significant effects on delinquency in both analyses. Thus, attachment to parents did not mediate the effect of perceived informal labeling on delinquency at both levels of analysis. It was somewhat unexpected result that attachment to parents was not significantly

associated with delinquency because weak attachment to parents has often been found to be a robust predictor of delinquency in prior research (Hirschi, 1969; Loeber & Stouthamer-Loeber, 1986; Rankin & Kern, 1994) based on social control theory. Research on indulgent or permissive parenting (see Cui et al, 2018), however, sheds some light on this unexpected result. If parents are too permissive and do not provide proper control over their child's behavior, the child's attachment to parents may increase, but this increased attachment to parents never prevent them from being involved in delinquency because of the absence of proper control. In turn, attachment to parents may be just one aspect of the parent-adolescent dynamics in these data, and it may not be the most consequential to predict reduced delinquency.

Attachment to teachers also did not mediate the effect of perceived informal labeling on delinquency in both within-individual analysis and between-individual analysis. Most of all, perceived informal labeling did not have significant within- and between-individual effects on attachment to teachers although attachment to teachers had a significant and negative between-individual effect on delinquency. Given that within-individual effect of attachment to teachers on delinquency was not significant, the significant and negative effect found in between-individual analysis may be spurious.

Attachment to very close friends also turned out to be a factor that could not account for the relationship between perceived informal labeling and delinquency. Interestingly, however, analyses involving attachment to very close friends showed different results between the within-individual analysis and the between-individual analysis. Specifically, while the direction of the between-individual effect of perceived informal labeling on attachment to friends was positive, the direction of the within-individual effect was negative. Also, while the direction of the between-individual effect of attachment to friends on delinquency was positive, the direction of the within-individual effect was negative.

First, perceived informal labeling was negatively associated with attachment to very close friends in the within-individual analysis although the between-individual association showed the opposite direction. There might be two reasons for this unexpected direction of within-individual effect. On one hand, very close friends can be one of the major sources of informal labeling. If the adolescent perceives that the degree of the labeling by very close friends is higher than in any other years, attachment to those friends will decrease. It is, however, also possible that very close friends are not the major source of informal labeling. Then the source of

informal labeling may include parents, relatives, neighbors, and teachers. In this case, adolescents may suppress their impulse to get along with those friends because parents, relatives, neighbors, and teachers generally do not like the adolescent to be in association with friends who can provide deviant opportunities. In other words, the adolescent may decrease attachment to very close friends as a reaction to the labeling by prosocial people as Matsueda (1992) explained. However, this scenario is not applied to the between-individual analysis. Regardless of this within-individual mechanism, the association between perceived informal labeling and attachment to friends can be positive in the between-individual level because there might be third variables that explain this association. For example, adolescents who have behavioral problems may be more likely to be informally labeled regardless of the number of delinquent behaviors measured at the first wave (i.e. prior delinquency included in the between-individual analysis). At the same time, these behavioral problems may increase attachment to a small number of very close friends in the absence of other prosocial relationships.

Second, attachment to very close friends appeared to decrease delinquency in the within-individual analysis, unlike between-individual analysis that showed a positive effect of attachment to very close friends on delinquency. The result of this within-individual analysis is consistent with Hirschi's (1969) social control theory proposing that any type of attachment is negatively associated with delinquency. Again, the direction of the between-individual effect of attachment to very close friends on delinquency was the opposite of the within-individual effect. This between-individual effect also should be interpreted in terms of the influence of unmeasured third variables that make the differences between individuals. That is, the difference in unmeasured third variables between individuals including parental supervision, aggressiveness, self-control, or any other behavioral problems can make the relationship positive.

The last mediating variable, delinquent peer association, appeared to account for the effect of perceived informal labeling on delinquency at both within-individual and between-individual level. In turn, delinquent peer association was the only variable that showed the same mediating effect with the hypothesis in the within-individual analysis. This result supports the theoretical proposition of labeling theory that people who feel difficulties in prosocial relationships by labeling may seek delinquent peers as a shelter and in turn, be involved in more delinquent behaviors (Becker, 1963; Schur, 1971; Tannenbaum, 1938).

Overall, the mediation processes analyzed by this study are summarized as followings. First, although deviant self-concept partially mediated the between-individual effect of perceived informal labeling on delinquency, the mediation was not observed in the within-individual analysis. In particular, perceived informal labeling significantly decreased deviant self-concept after one year in the within-individual analysis, unlike between-individual analysis that showed the opposite significant effect of perceived informal labeling on deviant self-concept. Second, attachment to parents, teachers, and very close friends did not mediate both between- and within-individual effects of perceived informal labeling on delinquency. Third, delinquent peer association partially mediated both the within-individual effect of perceived informal labeling and the between-individual effect of perceived informal labeling on delinquency.

### **6.2.2 Moderation Processes**

Moderation analyses also produced interesting results. The analytic strategy of this study focused on how within-individual effect of perceived informal labeling on delinquency changes according to some of the time-stable variables and time-varying variables. As time-stable variables, sex and prior delinquency were tested as moderators. That is, the analyses involving these two time-stable moderators show how within-individual effect of perceived informal labeling on delinquency is different according to the individual's sex and the level of prior delinquency, which was measured at the first wave.

First, prior delinquency did not produce any significant moderating effect. This result does not seem to be consistent with any of the prior research that has shown that the effect of labeling on secondary deviance differed by subgroups. In particular, given that prior delinquency is often considered as a strong factor that predicts later delinquency, this null moderating effect is somewhat unexpected. The result, however, shows that an individual's within-individual change in delinquency according to perceived informal labeling is not that different across subgroups who have different levels of prior delinquency.

There might be several reasons for this null moderating effect of prior delinquency. One scenario is the difference between within-individual analysis and between-individual analysis. Between-individual analysis conducted by prior researchers often controls only for the effect of variables that are included in the statistical model. Thus, the interaction effect of labeling and prior delinquency might be actually the interaction effect of other between-individual differences

that are associated with labeling and prior delinquency. In the within-individual analysis, however, the interaction between perceived informal labeling and prior delinquency can be more robust because any of between-individual differences are removed.

Second, sex moderated the within-individual effect of perceived informal labeling on delinquency although the significance of the effect was marginal. Specifically, females appeared to be more vulnerable to perceived informal labeling. This result corresponds prior researchers (Giordano et al., 2004; Messerschmidt, 1993; Ray & Downs, 1986) who speculated females who have weaker social power than males to be more vulnerable to others' appraisals.

Third, attachment to parents turned out to increase the positive within-individual effect of perceived informal labeling on delinquency. That is, when an adolescent was more strongly attached to their parents than other years, the effect of perceived informal labeling on delinquency increased in the subsequent year. This result is somewhat surprising because attachment to teachers, who are also considered as sources of prosocial socialization similar to parents, produced the opposite moderating effect. That is, attachment to teachers decreased the positive within-individual effect of perceived informal labeling on delinquency.

Although it is impossible to exactly point out the reason for this discrepancy in the direction of moderation between attachment to parents and attachment to teachers, indulgent parenting can be a reason because the measure of attachment to parents lacks the items related to appropriate supervision and discipline. Research that focused on indulgent parenting shows that indulgent parenting increases delinquency (see Cui et al., 2018). That is, indulgent parenting may increase attachment to parents because parents do not provide any necessary control over adolescents, and it may also increase delinquency because of lack of the control. In this case, it is a possible scenario that parental attachment can amplify the effect of informal labeling on delinquency rather than reducing the harmful effect of informal labeling on delinquency.

Meanwhile, the moderation by attachment to teachers showed that attachment to teachers can be a protective factor of perceived informal labeling as hypothesized. When it comes to attachment to very close friends, the result also supported the hypothesis. That is, attachment to very close friends amplified the effect of perceived informal labeling on delinquency. This result may derive from the fact that very close friends often provide delinquent opportunities in the absence of adults' supervision (Haynie & Osgood, 2005; Osgood et al., 1996).

Fourth, the effect of perceived informal labeling on delinquency was not conditioned by deviant self-concept that changes from wave to wave. This result implies that the human agency of adolescents has limitations to explain their behaviors as Giordano et al. (2002, p. 1054) pointed out that self-identity is more suited for explaining adults' behaviors than adolescent behaviors because adults have more "freedom of movement and choice-making possibilities. Another fact that should be emphasized is that labeling theory regards self-concept as something permanent rather than being characterized by a change from time to time (see Kubrin et al., 2009). Thus, I conducted a supplementary test that how the mean level of deviant self-concept across the wave moderated the within-individual effect of perceived informal labeling on delinquency. The result, however, also showed that the moderating effect of the mean level of deviant self-concept was not significant. In sum, adolescent self-concept as deviant did not have any significant conditioning effect in the association between perceived informal labeling on delinquency.

Lastly, delinquent peer association turned out to significantly condition the within-individual effect of perceived informal labeling on delinquency. Specifically, the positive within-individual effect of perceived informal labeling on delinquency was stronger when the adolescent had more delinquent peers. This result is supportive of the hypothesis of this study. Also, it supports the speculation of Liu (2000) that delinquent peers may facilitate estrangement from prosocial relationships and provide opportunities for delinquency.

Overall, the moderating analysis can be summarized as followings. First, within-individual effect of perceived informal labeling on delinquency was not significantly influenced by prior delinquency. Second, the positive within-individual effect of perceived informal labeling on delinquency was stronger for females than males. Third, the positive within-individual effect of perceived informal labeling was stronger when the individual's attachment to parents or attachment to very close friends was stronger than other years. Fourth, the positive within-individual effect of perceived informal labeling was weaker when the individual's attachment to teachers was stronger than other years. Fifth, self-concept did not significantly change the within-individual effect of perceived labeling on delinquency. Lastly, the positive within-individual effect of perceived informal labeling on delinquency was stronger when the individual had more delinquent peers than other years.



### 6.3 Implications

This study has largely two distinctive features compared to prior research that tested the effect of labeling on delinquency. First, instead of focusing on formal labeling, this study tested how informal labeling, more directly, perceived informal labeling influenced delinquency. Second, this study tried to overcome the limitations of prior research that could not totally control for between-individual differences. The statistical methods used in this study made it possible to compare within-individual effect from time to time to between-individual effect often adopted by prior research. Specifically, three-level models could isolate between-individual effect and within-individual effect by eliminating the contextual effects of each level.

As expected, perceived informal labeling had a significant, positive effect on later delinquency. In particular, the effect was significant even in within-individual analysis. This means that adolescents' perception of others' appraisals influences their quality of behaviors. This finding adds an evidence of the importance of informal labeling to prior research in this area (Adams et al., 1998; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Matsueda, 1992; Pate & Hamilton, 1992; Triplett & Jarjoura, 1994). In particular, this study found a possibility that theoretical discussion on the link between informal labeling and adolescents' delinquent behaviors, often examined in the American context, can be extended to Korean cultural context.

The mediating mechanisms regarding how perceived informal labeling increases later delinquency, however, was not exactly the same as the prediction of labeling theory and prior research. As discussed above, this gap might result from several factors including the difference in formal labeling and informal labeling and analytic strategies that focused on within-individual dynamics from year to year. Importantly, however, examining within-individual changes is more consistent with the original theoretical perspective of labeling theory given the theory's developmental nature (Sampson & Laub, 1997).

Unexpectedly, only delinquent peer association was a significant mediator in the within-individual relationship between perceived informal labeling and delinquency. That is, deviant self-concept and attachment to others, which are often regarded as important mediating variables in prior research and labeling theory itself, did not significantly mediate the within-individual effect of perceived informal labeling on delinquency in this study. This means that there might be a variety of sources of spuriousness involved in the between-individual relationship among perceived informal labeling, those mediating variables, and delinquency.

One of the most interesting findings of this study is that deviant self-concept did not account for the within-individual effect of perceived informal labeling on delinquency. Rather, the empirical result of the current study showed that perceived informal labeling decreased deviant self-concept of the subsequent year, and deviant self-concept did not have a significant effect on delinquency of the subsequent year in the within-individual analysis. This result implies that adolescents are likely to deny or reject the informal label by surrounding people (Davis, 1961; Paternoster & Iovanni, 1989; Scimecca, 1977). Also, adolescents' deviant self-concept was not a significant predictor of later delinquency.

This finding is seemingly inconsistent with the original labeling theory perspective that mainly focuses on deviant self-concept as an important mediator. Although some researchers including Matsueda (1992) pointed out that labeled individual's perception of informal labeling is enough to capture the mediating mechanism between actual informal labeling and delinquency, labeling theory clearly proposes that any type of internalizing process that accepts the identity as a deviant is necessary for a labeled individual to be involved in further delinquent behaviors.

This labeling perspective that focuses on formal labeling, however, may not be exactly applied to informal labeling. One plausible explanation might derive from the difference between formal labeling and informal labeling. As discussed above, informal labeling can be regarded as less serious than formal labeling because the source of informal labeling included parents, teachers, and friends who are already familiar with the adolescent. Although an adolescent feels that appraisals of these people are relatively negative than any other years, there are still chances that their appraisals can change from time to time. In turn, the adolescent may not regard this within-individual change in informal labeling as serious as formal labeling. Thus, the effect of perceived informal labeling on the adolescent's self-concept would be limited.

Attachment to others also did not mediate the effect of perceived informal labeling on delinquency. This implies that attachment is not the only factor that consists of the relationship with others. For example, Stewart et al. (2002) used parenting practices, which includes poor supervision, harsh discipline, and harsh parenting as mediating variable between formal labeling and later delinquency and found significant mediating effects. Also, the result implies that a significant mediator between informal labeling and later delinquency might be weakened

opportunities caused by weakened attachment rather than weakened attachment itself as some prior research has shown (Bernburg & Krohn, 2003; Sampson & Laub, 1997).

If deviant self-concept and attachment to others do not mediate the effect of informal labeling on delinquency, what explains this effect? The mediating variable found in this study was delinquent peer association. That is, this study shows that delinquent peer association can explain the within-individual effect of perceived informal labeling on delinquency from year to year. This result implies that adolescents who experienced difficulties in the relationships with prosocial people by informal labeling may feel more comfort and security when socializing with delinquent peers because delinquent peers do not have any prosocial expectation on their behaviors. In addition, socializing with delinquent peers may be even rewarding as it provides the adolescent with social acceptance in the delinquent peer groups.

The role of delinquent peer association was once more emphasized in the moderation analysis. As already discussed, peer association appeared to increase the positive within-individual effect of perceived informal labeling on delinquency. Also, another peer-related measure, attachment to very close friends also showed a significant moderating effect in the expected direction. In general, peers turned out to exacerbate the harmful effects of informal labeling on delinquency regardless of the peers' delinquency.

On the other hand, attachment to teachers appeared to be a protective factor of informal labeling on delinquency, while attachment to parents was limited in reducing the positive effect of informal labeling on delinquency. As discussed earlier, this unexpected moderating effect of attachment to parents may derive from permissive or indulgent parenting that does not provide adolescents with proper control. Another point that should be emphasized is the place where most of the delinquent behaviors occur. Given that schools are the place where Korean adolescents spend a significant part of their time, most delinquent behaviors may occur in the school. Thus, teachers and peers with whom adolescents spend most of their time may be more influential to the adolescent's behaviors than parents.

These findings also provide related policies with some practical insight. First, the result of this study suggests that policies addressing adolescents' behavioral problems need to focus on reducing unsupervised socializing with peers in the school setting where adolescents spend a large amount of their time. In their review of prior research, Cook and colleagues (Cook, Gottfredson, & Na, 2010) pointed out that reducing class size can be helpful for enhancing

adolescents' attachment to teachers and for supervising adolescents because small class size increases adolescents' sense of belonging and teachers' attention to each student (Finn, Pannozzo, & Achilles, 2003). That is, teachers may be more attentive to each student's emotions and needs in a small class. More broadly, any efforts to enhance the school environment that facilitates the closeness between teachers and students will be needed.

Second, given that informal labeling led to delinquent peer association wherein adolescents can find comfort and security, any type of informal sanction imposed on adolescents should involve any efforts to integrate the adolescents into prosocial relationships before they are isolated from prosocial relationships and seek alternatives. This idea is also found in Braithwaite's (1989) reintegrative shaming theory discussed in Chapter 2. Although this study did not address this theory directly, a significant within-individual relationship between informal labeling and delinquent peer association implies the importance of the way of informal sanctions.

#### **6.4 Study Limitations and Future Research**

One of the limitations of this study is that more complex mediating mechanisms were not tested. That is, deviant self-concept and attachment to others, which did not appear to mediate the effect of perceived informal labeling on delinquency, may be related to later delinquency in indirect ways. In other words, although deviant self-concept and attachment to others did not directly mediate the within-individual effect of perceived informal labeling on delinquency, it is still possible that these variables can mediate the effect indirectly by influencing delinquent peer association or any other mediating variables that were not included in this study. For example, although weakened attachment to parents caused by perceived informal labeling did not predict later delinquency in this study, it is possible that weakened attachment to parents indirectly led later delinquency through its effect on delinquent peer association. Thus, it is necessary to conduct path analyses that reflect more complex mediating processes among variables in the future research. As Akers and Sellers (2012, p. 139) pointed out, the labeling process may not be a mere "one-way deterministic process", characterized by simple and clear mediating processes.

Relatedly, other mediating variables should be explored. Given that deviant self-concept and attachment to others, often regarded as important mediators by prior research, could not explain the effect of perceived informal labeling on delinquency at the within-individual level,

future research should consider other theoretical mechanisms that can account for the effect of informal labeling on delinquency. Although delinquent peer association turned out to be a significant mediator, other possibilities might exist. For example, informal labeling can reduce direct control such as parental supervision or discipline and lead to delinquency subsequently.

Also, within-individual analyses of this study were based on the year-to-year change of variables. Thus, this study basically could not capture the change in variables over a longer period of time. This focus on year-to-year effects can be a serious limitation, particularly when analyzing mediating processes because labeling theory proposes that alteration of self-concept or weakened attachment to prosocial people may occur gradually over time. In this regard, the result of mediating processes should be interpreted with caution. To test the mediating mechanisms proposed by labeling theory in a more rigorous manner, future research needs to find a way to examine within-individual changes in variables that occur gradually over a longer period of time.

Lastly, this study could not include any formal labeling measure in the analysis because of the limitation of the data. Given the potential that informal labeling may produce somewhat different effects from formal labeling in terms of the direction and the size of the effects, this limitation is particularly regretful. Using both formal- and informal labeling can produce interesting findings including the interaction effect of these two variables on later delinquency. Also, controlling for formal labeling will be a more rigorous estimation of the effect of informal labeling. In this regard, future research needs to collect data that contains both formal- and informal labeling.

## **6.5 Conclusion**

This dissertation focused on clarifying within-individual dynamics involved in the relationship between perceived informal labeling and later delinquency. By doing so, this dissertation attempted to fill the voids of prior research that disproportionately focused on the between-individual differences in the consequence of formal labeling. The results showed interesting findings including somewhat unique mediating and moderating mechanisms compared to prior research. Although these results should be interpreted with caution, one thing clear is that this dissertation addressed the original idea of labeling theory that emphasizes

within-individual dynamics over time involved in the effect of labeling on later delinquency. Also, I believe that further development of labeling theory should start from replicating the within-individual dynamics involved in the effect of labeling with a variety of data and methods.

# APPENDIX

## IRB APPROVAL MEMORANDUM



Office of the Vice President for Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

### APPROVAL MEMORANDUM

Date: 01/08/2018

To: Joonggon Kim

Address:

Dept.: CRIMINOLOGY AND CRIMINAL JUSTICE

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research  
The effect of informal labeling on adolescent delinquency

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Exempt per 45 CFR § 46.101(b)4 and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 01/04/2019 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Carter Hay <chay@fsu.edu>, Advisor  
HSC No. 2017.22/12

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